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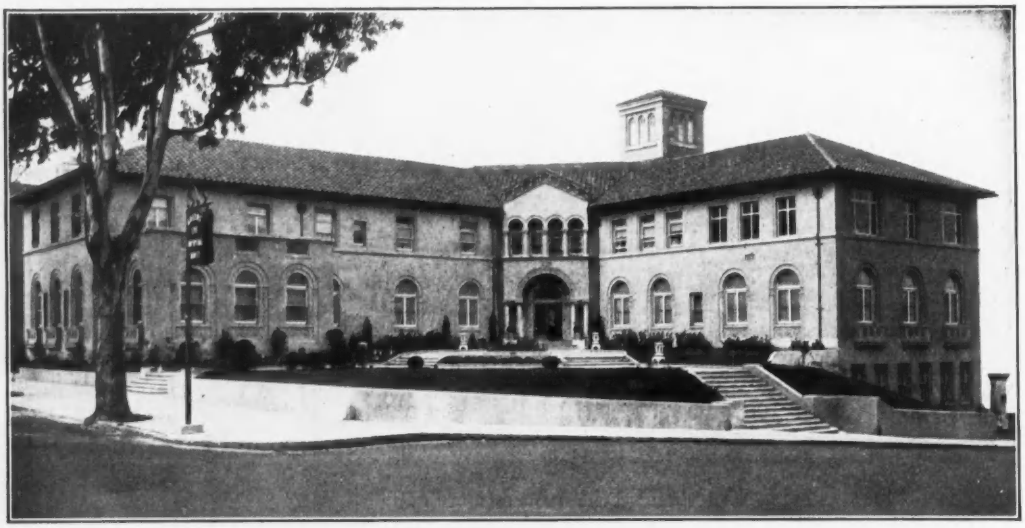

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THE COST OF MEDICAL CARE AND HOSPITALIZATION*

By A. B. Cooke, M. D.
Los Angeles

IN order to get a correct idea of this subject it is necessary to keep in mind the several factors involved. The patient is not the only consideration. At least three other elements of the problem must be recognized and properly evaluated, namely, the hospital, the nurse, and the doctor. The mutual interdependence of these is self-evident. But it is well to remember that they are *not* equally important. Both doctor and nurse existed and functioned long before there were hospitals—and do still in many communities—and with a fair degree of success. Also, doctors lived and labored before the professional nurse was even dreamed of and, again we may say, with a fair degree of success.

SOME FACTS—AS THEY ACTUALLY ARE

The purpose of this contribution is not to defend the doctor—he needs no defense—but to say openly a few things which have too long been left unsaid. I hold no brief for my profession, but I believe that an opportunity like this should not pass without an earnest and emphatic plea that the importance and the interests of the doctor be not lost sight of in the hue and cry which has become so fashionable on this question of the high cost of sickness. If the hospital is often hard pressed to keep its head above the waters of financial disaster, if the nurse's claims for more pay and less work are based upon sound principles of justice and fair play—I charge you to remember that the doctor, the pivotal factor about which the whole machinery revolves, should also be taken fully into account in any right thinking upon the subject. That this is not always done is a matter of common knowledge. Speaking of the prevalent custom, the hospital charges are settled in full when the patient is dismissed, and with them, usually the nurse's bill. The doctor comes last. By the time he arrives the pocketbook is empty, and fortunate is he in many cases if, after prolonged and often hectic effort, he succeeds in obtaining even a portion of what is due him. Does he lack the courage to demand his rights, or does he submit because his conception of professional ethics (God save the mark!) restrains him from open opposition to a vicious and inequitable system, notwithstanding that his very livelihood is at stake?

Prosperity is a grand sounding word, and the huge gobs of it we are said to be enjoying in America at the present time form the subject of smug and vociferous comment in the publicity media of the business world from day to day. Let us, the members of the medical profession, stop and solemnly ask ourselves to what extent we are participating in the loudly acclaimed "good times."

THE PRACTICAL WORLD AND THE PHYSICIAN

In the economic world the physician is and always has been a sorry spectacle. Immersed in the exacting responsibilities of his daily work, beset with the almost insuperable difficulties of keeping abreast of his rapidly developing science, he has little time for thought of material gain. An easy mark for the public, he is exploited with increasing flagrance by national, state, county, and municipal governments. As for his position in the domain of industry he has become merely a cog in the wheel, a pawn in the game of big business. For let no one delude himself that the interest of business in this problem of the cost of sickness is in any sense philanthropic or altruistic. It is rather a matter of the actual cash savings to be realized by the wholesale purchase of medical service. And the doctor apparently takes no heed of the ignoble position in which he places himself or the discredit he brings upon his profession by lending his aid to further the schemes of cold-blooded commercialism. It is little wonder that the individual should be contaminated by the spirit of that which he serves, and that the profession as a whole should find itself more and more on the defensive, fighting to retain the respect and esteem which constitute its honorable birthright.

If financial gain or material preferment of any kind followed the operation of customs and conditions such as have been mentioned, the uncomplaining acquiescence of the doctor in these and similar abuses would not be so hard to understand. In this connection I have only to remind you of what we all know, that not 10 per cent of our fellows achieve financial success from their professional labor alone, and that more than

* Read before a joint meeting of the Southern California Medical Association and the Southern California Hospital Council, Los Angeles, November 8, 1929.

50 per cent of those who reach old age are entirely and pitifully dependent.

The idea of justice to the doctor is so seldom given expression that it will possibly sound bold and strange to many. His own attitude has always been that of dumb and spiritless acceptance of things as they are. Result: The passing years have brought economic and social uplift to all but him, and, sad to say, little promise of improvement is visible on the horizon of tomorrow. Long-suffering may be an admirable Christian virtue, but the fact remains that no other body of equal numbers and intelligence would even hesitate to promote the material interests of its members merely because of sentimental allegiance to certain hoary and outgrown traditions.

For look you! The attainment of happiness is the purpose and the right of every human being, including the doctor. Without health, happiness is merely an idle dream. The maintenance of health, then, or its restoration when impaired, must be recognized as transcending in importance all other objects of human desire and endeavor. To these ends the doctor devotes himself, assuming responsibilities of incomparable gravity and rendering services of incomparable value. Yet strange, almost passing belief is the attitude of the public on the subject. As long as health is a present reality the contingencies, nay the certainties, of the future remain matters of little concern. The purchase, usually on time, of automobiles, radios, and similar luxuries, nightly attendance at the movies and every form of indulgence and extravagance constitute the routine life of the average citizen today. Only when the inevitable sickness or calamity comes, do the doctor and the hospital receive more than passing thought. Then indeed they become agencies of supreme importance. And then what happens? Either the doctor is called and his services remunerated with a specious promise to pay hencely, or, more likely, the good offices of a free clinic or hospital is sought. In the latter event the doctor (simple soul!) perforce becomes the agent of service, the only difference being that now he *knows* he will receive no compensation. The doctor and his interests are lost sight of in the shuffle. The cards are stacked against him. Glory and a dribbling of half-hearted gratitude form a large proportion of his reward for a life of arduous and self-sacrificing devotion.

HOSPITAL STANDARDIZATION BRINGS INCREASED EXPENSE

I cannot let the occasion pass without expressing my personal appreciation of the hospital and my sympathy with and for it in the struggle it daily faces to make ends meet. Standardization, desirable as it is, has resulted in heavy addition to the operating cost, and the many exacting demands of the times we live in continue to swell the already top-heavy overhead. And I yield to no one in commendation of the nurse, and in sympathy for her and her aims so long as she refrains from employing the methods of tradesunionism to gain her ends. But I insist as vigorously as my command of language will permit that the doctor, too, is entitled to consideration in any fair discussion of the question before us.

The truth is that the time has fully come when we, the members of the medical profession, can no longer afford to remain passive. Already the drift toward state medicine has set in. The immediate future is full of ominous menace. Less compensation and more work under the direction of bureaus controlled by laymen, utter loss both of independence and dignity—these are a few of the dangers I seem to see lurking just around the corner.

What of the outlook for young physicians just entering upon their chosen life work?

Brethren, let us wake up!

727 West Seventh Street.

ACUTE UPPER RESPIRATORY TRACT INFECTIONS IN CHILDREN*

By CLIFFORD SWEET, M. D.
Oakland

DISCUSSION *by Donald K. Woods, M.D., San Diego; Andrew J. Thornton, M.D., San Diego; Harold K. Faber, M.D., San Francisco.*

IN all fields of medicine an accurate diagnosis should precede any treatment that is meant to change the natural course of disease. This is especially true when the patient is a child. Often the child is unable to give an exact, detailed history, and his most accurate statements are all too often distorted in being relayed from parent to physician. Likewise, all too often this distortion is multiplied when the physician's mind is impeded by such fixed ideas as: (1) Acute illness in childhood is usually caused by improper food. (2) The intestinal tract is so nearly, if not always, the seat of the pathological process that a thorough cleaning out may, in general, precede other diagnostic endeavor.

SIGNS AND SYMPTOMS OF ONCOMING INFECTIONS

Loss of appetite and interest in play, with unusual irritability and otherwise unexplained fatigue, are commonly signs of approaching illness, rather than of original sin. However, the onset of an infectious process in the child is frequently characterized by sharply defined, often alarming symptoms.

Fever.—Fever, sudden in onset and of high degree, often marks the beginning of illness which, after the passage of a few hours, proves to be of little moment. Not infrequently a fever of 104 degrees has fallen to a moderate degree or to normal the next day and only a "head cold" is the evident diagnosis.

Fever is evidence of infection, with two exceptions: the dehydration fever, due to severe water deprivation or loss, and the allergic fever resulting from severe anaphylactic reaction in highly

* From the Baby Hospital, Oakland.

* Read before the Pediatrics Section of the California Medical Association at the fifty-eighth Annual Session, Coronado, May 6-9, 1929.

susceptible individuals. In most cases infection is the cause of a febrile response, and in children the area most often invaded is the upper respiratory tract.

Vomiting.—Vomiting, another common symptom of infection is so frequently present that attention is focused on the digestive tract. With his attention so directed, the physician is easily settled into a conviction that the difficulty lies in the alimentary system. Often this conviction is evidently confirmed by the appearance in the vomitus of food eaten many hours previously, and if, in addition, the not infrequent fall in temperature mentioned above occurs after the administration of a cathartic, the case for the digestive system seems to be so evidently won that further diagnostic search seems to be wasted effort.

Vomiting plays so prominent a part in all difficulties that have their seat within the digestive tract that one does well to use all skill and care in the detection of any pathological process so situated. One who fails to think of appendicitis, intussusception and, in very young infants, of congenital pyloric stenosis, will in the course of years commit diagnostic oversights of grave or even fatal moment.

Rectal examination whenever palpation of the abdomen has aroused even slight suspicion should be a common diagnostic procedure. Only frequent careful rectal examinations bring the acumen of the examiner to a highly trustworthy state of perfection.

Food idiosyncrasy on an allergic basis is of sufficiently frequent occurrence as a cause of vomiting not to be lost sight of. The presence of or history of other allergic signs and symptoms such as hives, eczema, asthma, as well as the usual absence of fever, are of considerable value as evidence of this state.

Still more rarely actual food poisoning from decayed or infected foodstuffs needs to be given thought. With improved inspection and care of foods this is a constantly diminishing cause of illness.

After all these causes for vomiting have been summed up there remains by far the most frequent cause, *i. e.,* the vomiting which is a part of a systemic response to a toxic invasion from a seat of infection located most frequently in the upper respiratory system. Urinary tract infection, osteomyelitis, or other infection may, of course, produce an identical response to the absorption of bacterial toxins. The mechanism of this response may well be explained by analogy. When apomorphin is given by hypodermic no anatomical change occurs in the stomach, but function is interfered with through the medium of the central nervous system.

Acetonemic, or so-called cyclic vomiting, is in general a response to the invasion of bacterial toxins. Since the upper respiratory tract is, in point of frequency, by far the most usual seat of localized infection, here again it plays the principal rôle. The connection between the respiratory tract infection and the onset of this type of vomiting is often obscure. The infection is usually of a low-grade type, producing but little constitutional response in the way of fever, or malaise, and may precede or follow the onset of vomiting by such a number of days (often two or three) that the direct connection between the two is lost sight of. However, if careful observation of the upper respiratory tract is carried out, undoubted evidence of infection of the pharynx, middle ears or paranasal sinuses will be convincingly apparent. Cessation of or at least a marked drop in frequency and severity of attacks of acetonemic vomiting, following the removal of tonsils and adenoids or the drainage of infected antrums, is also strong circumstantial evidence in favor of respiratory tract infection being the chief etiologic factor.

In acetonemic vomiting the response may be in part an anaphylactic or allergic one, at least an allergic family history and other undoubted allergic symptoms are sufficiently often present to give this thought a considerable foundation.

Diarrhea.—Diarrhea, at least here in California, is also, in a large majority of its appearances, a functional reaction to the systemic absorption of bacterial toxin. In considering the causes of diarrhea, one must remember: acute pyogenic colitis and enteritis; specific infections, such as dysentery and typhoid, which localize in the digestive tract; food substances which act as irritants either because they have undergone bacterial putrefaction or because the host is allergic to them or because they are unripe or otherwise not properly prepared for the use of the young human being; and appendicitis, which may cause a profuse watery diarrhea, especially in very young children.

After giving due weight to all other causes, infection outside the digestive tract remains the most frequent cause of diarrhea in children, as Marriott and others have found.

Convulsions.—Convulsions not infrequently are a part of the stormy onset of acute respiratory infection. Here the bacterial toxin shows the result of its attack upon the central nervous system. The question arises, is the convulsion the direct result of the reaction of the toxin on the nervous system or does the toxin so disturb the heat regulatory function that the convulsion is produced by the excessive fever? In any event a high degree of fever usually attends convulsive attacks. Reduction of the fever quiets the overirritated nervous system and the most certain method of preventing the onset of convulsions is the prompt and sufficient use of hydrotherapy. Immersion in a deep, warm tub bath for from twenty to thirty minutes or the use of a warm, wet sheet and blanket pack for one hour are most useful. The fever usually falls and the patient often sleeps quietly for hours. That these measures have not been commonly used by physicians is indicated by the surprise and fear with which their recommendation is greeted by patients who have not used them formerly. An ice bag on the head is also of value and, in extremely high fever,

cold sponging may be necessary in order to reduce the fever.

A tendency to have convulsions is more marked in some individuals than in others. This tendency is not infrequently a familial one, following the usually observed laws of heredity. Again, reasoning by analogy, a certain number of people are susceptible to seasickness while others succumb only under unusual conditions. However, since the degree of toxemia necessary to produce so marked a reaction as convulsions in even susceptible individuals must be considerable, the digestive tract may well have its function simultaneously interfered with. Quite often, therefore, at or near the time of the onset of convulsions, food is vomited or removed from the stomach which was eaten hours previously. Again one is tempted to ascribe to the undigested food a causal rôle in relation to the convulsion, when, in reality, both the convulsion and the failure of digestion to make its normal time progress are the result of the action of bacterial toxins.

The contents of the gastro-intestinal tract may become infected during the period of stagnation produced by bacterial toxemia. This possibility is lent color by the well-known fact that urine, held stagnant within the urinary tract by congenital or induced interference with normal passage, becomes itself the seat of bacterial growth and reproduction. While this possibility must be admitted, it does not seem to deserve too great weight in one's search for the cause of the symptoms under consideration.

In the first place, normal peristaltic progress is interfered with strikingly within a short period of time. That bacterial toxins could be quickly produced in clean food materials within the relatively sterile upper digestive tract, in the presence of the digestive juices, all of which possess considerable bactericidal powers, seems very improbable. Secondly, food materials that are known to be infected have a very marked irritant action on the digestive tract producing, not stasis, but an unusually severe grade of vomiting and purging. Third, the mucosa of the digestive tract and its appendages do not lend themselves readily to generalized bacterial invasion, and when localized infection takes place, as in the appendix, symptoms which are definite and unmistakable arise. Likewise when an inflammatory or ulcerative colitis is present, evident signs of its presence are seen in the passage of mucus, blood, and purulent material. One who stands often at the postmortem table and sees the healthy appearance of the digestive organs and the frequent presence of pathologic changes in the upper respiratory passages soon learns by which system the burden of infection has been borne. In addition, the most important evidence, lending itself to objective demonstration, if careful search be made, is the presence of localized reaction to bacterial invasion within the visible portion of the upper respiratory tract.

Abdominal Pain.—Abdominal pain is a very common symptom of upper respiratory tract infection. Many children with tonsillitis make no complaint of the throat, but complain insistently of abdominal pain or discomfort. I have no exact explanation to offer for this frequently observed fact. Brenneman has studied this symptom and wisely observes that its cause must be carefully worked out each time it occurs and no conclusion reached by snap judgment.

Allergic Outbreaks.—The careful observer of the upper respiratory tract cannot long doubt that infection in this region is a very important factor in allergic outbreaks such as attacks of asthma, eczema, hives, and urticaria. The mother of the asthmatic child volunteers the information that attacks are ushered in by a cold almost uniformly. The upper respiratory tract infection in this instance is not the cause of the allergic response, but merely, if you please, "opens the door" allowing a protein invasion to overflow or break down the patient's threshold of allergic resistance.

IMPORTANCE OF RESPIRATORY INFECTIONS IN CHILDHOOD

That the importance of upper respiratory tract infection in childrood is not sufficiently appreciated my experience teaches me. This experience has been gathered: First, in an active practice extending over several years in two representative California communities. Second, from the teaching of interns who are recent graduates of Class A medical schools quite representative of the entire United States. These young physicians may be assumed to reflect, without too great distortion, the teachings of their respective schools. Third, from an active clinic practice which is the most certain measure of the current medical ideas of the community in which one works, as the clinic patients come out of the practices of the entire medical fraternity, reflecting, in the mass, the medical teaching to which they have been subjected. Fourth, from a sustained interest in the study of medicine which causes me to exchange ideas with physicians wherever we may meet.

My experience is illustrated by the family physician who, during the course of taking the patient's history, roundly scolded the mother for allowing the child to partake of ice cream and a ripe banana (both wholesome foods) several days previously; thereby placing the entire blame for the illness upon the mother and the child's gastro-intestinal tract. The demonstration of an extensive bronchial pneumonia and a bilateral purulent otitis media made it difficult to maintain the mother's confidence in that physician. Another physician stated, in the parents' presence, "We are dealing with nothing but an intestinal infection, and during each of the past fifteen days the fever has been reduced within twelve hours by a dose of castor oil and an enema." The presence of a bronchial pneumonia, with its usual temperature curve made some embarrassing moments for all of us. I hasten to add that both these physicians are skillful, reputable members of our profession whom I hope I possess as friends, who had failed in making a diagnosis because the

major part of their attention had been focused upon the intestinal tract.

My teaching experience with interns is illustrated by the frank doubt with which they, one and all, first receive the statement that the gastro-intestinal upsets of children are nearly, if not all, brought about by demonstrable localized respiratory tract infection. At ward rounds, when the question is asked "Why is this child vomiting? Why has he a diarrhea? or Why has he had convulsions?" the answer has been, "He has eaten something which has disagreed with him or his mother has fed him wrongly." Only after many cases have been studied and he has had an opportunity to see develop an acute follicular tonsillitis, a pharyngitis, a purulent otitis media, or a sinusitis, does he come to believe that food does not usually cause these symptoms. Then in tones of self-confident assurance he heads his list of causes with "an acute infection, usually of the upper respiratory tract."

The acute upper respiratory tract infection is overlooked because it does not occupy its deserved place of importance in the mind of the physician.

EXAMINATION METHODS

If the upper respiratory tract is to be examined in anything like sufficient detail, an adequate source of light must be used. Only under unusually favorable circumstances can daylight be used for examination of the throat, not to mention the ear and nose. Only with the head mirror or especially lighted instruments can anyone consistently make the detailed examination which is necessary for accurate diagnosis.

The sudden, stormy onset of infection in the child causes the physician to be called early in the illness. Therefore the patient is seen before localized pathologic changes have taken place. A throat apparently normal today will have the typical and unmistakable appearance of a florid follicular tonsillitis tomorrow, at which time the temperature may be normal and the child reported "much better." The follicles of the tonsils are outlined by and filled with sloughed material. Hours are necessary for the organization of this slough.

On the other hand, the localizing signs may disappear from the throat long before the other symptoms have subsided. Rarely, however, is telltale evidence of the true nature of the difficulty lacking if the throat, nose, and especially the ears, are carefully examined. The ear-drums often remain discolored or injected for days after an acute infection and almost always become injected before its course is run. It has been said that "The eye is the window of the soul." It may be said with more abstract truth that the ear-drum is the screen upon which is pictured the state of the mucous membranes of the accessory cavities of the upper respiratory system.

Every child should have frequent complete physical examinations. While the time-honored custom of emptying his digestive tract has its place in therapeutic procedure, it should not precede the examination and under no circumstance should it serve as a substitute for careful physical examination.

The upset stomach is a symptom and should not be elevated to the dignified level of a carefully arrived at diagnosis. The Irishman who had never seen a horse was puzzled which to put first—the horse or the cart. Infection is the horse, and disturbed function of the digestive tract, or nervous system, is the cart and follows after.

SUMMARY

Acute infections, the area of invasion being usually within the upper respiratory tract, are responsible for many departures from a healthy state in children. Loss of appetite, fever, vomiting, diarrhea, abdominal pain, and convulsions are usual symptoms and signs of such acute infection. This view, kept in the foreground of the physician's mind, will enable him to practice medicine more successfully and so make his community a better one for children to live in.

242 Moss Avenue.

DISCUSSION

DONALD K. WOODS, M. D. (El Prado Comercial, Fifth and Laurel, San Diego).—Doctor Sweet's paper strikes the keynote in the more advanced thought in connection with disease in childhood. In talking to any group interested in children, it would seem impossible to put too great an emphasis on the symptoms pointing to infections of the respiratory tract.

Practically all disease in children, as we see it in private practice, is located in the upper respiratory or gastro-intestinal tract. I believe most authorities today feel that the majority of gastro-intestinal upsets are due primarily to upper respiratory infection, thus leaving upper respiratory tract infections as the outstanding source of practically all illness in childhood. Therefore early recognition and active treatment of these infections, particularly those of a mild nature, would greatly reduce the incidence of disease in childhood.

Discharging nostrils, especially chronic, often mean an infected sinus or large infected adenoids. The nonrecognition or disregard of these mild chronic or subacute symptoms often leads to more serious troubles in sinuses, cervical glands, mastoids, lungs, heart, kidneys, or colon. Desire for fluids is often mistaken for desire for food in the early stages of acute respiratory infections. The child is, therefore, often overfed, especially with milk, and the gastro-intestinal indisposition added to the original infection.

Practically all children who die of different affections in hospitals or foundling asylums, show foci of bronchopneumonia in the lungs. Most of these fatal cases possibly started with mild infections which were not considered important. The onset of the illness was only dated from the time when the condition of the patient had become serious. The original infection in most of these cases was overlooked. Many cases such as these, with possibly serious or fatal termination, will be avoided by early attention to mild symptoms of infection in the upper respiratory tract.

However, we must not entirely overlook the possibility of allergic reactions. I believe that the lowered resistance of many children, due to varying phases of protein sensitivity, makes it possible for otherwise harmless infections to develop.

It is very possible that many cases showing symptoms of upper respiratory infection were primarily such, but I believe a great many start with gastro-intestinal upsets due to constant contact with proteins to which the individual is sensitized. In all of these cases we should not be satisfied with the symptoms whether they apparently arise in the intestinal tract or the upper respiratory, but, as Doctor Sweet

indicates, we should be more careful in our search for the true underlying cause of the symptoms which present themselves.

✲

ANDREW J. THORNTON, M. D. (3235 Fourth Street, San Diego).—This paper deals with the practical side of our everyday practice.

Doctor Sweet has emphasized many times, in fact, the whole paper seems to be constructed around the idea that infection is the great cause of illness in children, and as a rule not errors in diet.

We have all been told many times that the vast majority of infections in children begin in the upper respiratory tract. But we need to be reminded of this fact frequently lest we lapse back into the rut of thinking that possibly food or teeth are responsible for the stomach upset or fever in a child.

Mothers and fathers like to hear the doctor say that food has upset the baby because that is what they think has caused the trouble and they are pleased to have someone agree with them.

Diagnosis in children requires industry and alertness. One does not often get by with a guessed diagnosis because mothers are rapidly becoming accustomed to thorough examination and careful attention to every detail of treatment by the pediatrist and his efficient office force.

If the cases are seen early there may be very little or no evidence in the throat, ears, or nose of the infection, yet if the child has fever and has vomited, or has had a convulsion, the doctor knows there is an infection causing the trouble. It may be twenty-four hours or even more before the throat is very red or the tonsils swollen.

In cases of pyelitis in babies we may never find any other symptom than fever, yet how frequently we see such patients with a history of repeated attacks in whom so-called biliousness and the gastro-intestinal tract were blamed for the whole trouble.

If the doctor does not find sufficient evidence for a definite diagnosis after one or two examinations, let him frankly say that he has not yet found the cause of the symptoms or, if he feels that the type of parent requires a definite statement, let him place the blame on the upper respiratory tract rather than on the gastro-intestinal tract and errors in diet.

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HAROLD K. FABER, M. D. (Stanford University Hospital, San Francisco).—Doctor Sweet is right—and performs a valuable service to the medical profession in calling attention to the fact—in insisting on the relative infrequency of primary acute digestive disorders in children and the vastly greater frequency of infections, usually upper respiratory, with secondary digestive symptoms. The fault—as with the still older and now less tenaciously held fear of the dangers of teething—really lies with the pediatric teaching of a generation or less ago. The cornerstone of instruction in children's diseases up to comparatively recent times was the gastro-intestinal tract, which was firmly believed to be the basis of most juvenile complaints. It has taken pediatricians a long time to appreciate that such a view is not in consonance with the facts. Meantime it has become firmly fixed in the lay mind. The medical man, therefore, finds it only too easy to satisfy the mother with the diagnosis of "stomach upset" and a prescription of castor oil, and is himself too apt to be content with such an explanation and treatment of symptoms.

Doctor Sweet's paper is of great practical importance not only to the general practitioner, but also to those who are responsible for the education of medical students, and of the lay public in medical matters.

HEART DISEASE—ITS MODERN DIAGNOSIS*

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THIS paper does not attempt a complete summary of the modern diagnosis of heart disease, but rather tries to evaluate certain of the means of diagnosis, to suggest sources of error and to indicate some of the differences between our present ideas and those of the past. The opinions expressed are based partly upon observations made in some American and European clinics and partly upon an analysis of seven hundred of our own cases. With regard to the latter material, I shall avoid statistics, which are merely one means of expressing conclusions. Such a case analysis justifies itself in clarifying one's own ideas, too often based on a few outstanding cases, forgetful of the many others. Also it calls to mind errors made in diagnosis or prognosis—errors revealed by time or more careful examination, errors that one subconsciously wishes to forget.

HISTORY OF DIAGNOSTIC PROGRESS

Today, the word "diagnosis" as applied to heart disease demands much more than formerly. That we may better appreciate the meaning of cardiac diagnosis, let me digress for a moment to the development of our present knowledge of heart disease. It will be recalled that before Galen, in the second century after Christ, little was known even of the anatomy of the heart or circulation; heart disease was an unknown quantity. From the second to the seventeenth century, great anatomists, such as Galen, Vesalius, Leonardo da Vinci, and Eustachius, dissected the human body and described the heart and blood vessels. But still, heart disease remained unknown except for an occasional description by the anatomist, of abnormalities observed in an excised heart. The course of the circulation, too, remained unknown until the great work of Harvey in 1628. With the discovery of the capillary circulation by Malpighi and Van Leeuwenhock an understanding of the circulation was possible. Following them came the age of the pathologists and the beginnings of cardiac diagnosis. At autopsies pathologists recognized abnormalities of the heart muscle, cavities, or valves, and assumed these to be the cause of death. With the discovery of percussion by Auenbruggers in 1750 and of auscultation by Laennec in 1819, clinicians secured means for recognizing certain physical signs in their patients and correlating these with the autopsy findings. But still the diagnosis was entirely an anatomic one, a prediction of the pathologic findings expected after death. Just as little was known of the physiology of the normal or abnormal heart or circulation, so the cardiac diagnosis failed to express the functional or physiologic capacity of the heart of the living patient.

The beginning of our present century brought us knowledge of the mechanism of the normal and

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abnormal heart and the physiology of the circulation. The work of Mackenzie, Lewis, Wenckebach, Peabody, and others taught us to ask first, not "What does the heart look like?" but "What is the heart doing?" We began to understand cardiac decompensation, and it became necessary to include in our diagnosis heart function as well as anatomic change.

But as we recognized the hopelessness of changing the stenosis of the valve or reducing hypertrophy of heart muscle, and as we saw the inadequacy of our therapeusis to restore the normal function of the heart, we sought clearer knowledge of the causes of heart disease, hoping to find means of preventing or arresting it.

MODERN-DAY DIAGNOSIS

So today a complete diagnosis demands a statement of its etiology, the structural changes, and the physiology and function of the heart. However incomplete our present knowledge of the causes of heart disease, too much stress cannot be laid upon the importance of such etiology as there lies our best hope for the individual patient and the advancement of cardiology.

In conformity with this modern concept of the proper diagnosis of heart disease, the American Heart Association has adopted a new classification. With minor modifications [1] this has been accepted by most cardiologists and cardiac clinics in the United States and by the medical departments of the Army and Navy. Its increasing use has aided in the collection of data. Its various headings need little explanation. It stresses the inadequacy of such diagnoses as "aortic regurgitation" unless the cause of the valve defect and the function of the heart be added or a diagnosis of "cardiac decompensation" unless the etiology and structural changes be included. It is, of course, obvious that in some patients more than one cause may be operative, as in the patient with rheumatic mitral stenosis who develops hyperthyroidism. The structural lesion present may indicate the etiology, as in the case of mitral stenosis which is nearly always rheumatic in origin. Or the etiology may predict the structural changes, as in the syphilitic type of disease. The group labeled "etiology unknown" is important in emphasizing that it is preferable to so state and thus keep searching for a cause rather than to simply note the anatomic lesion and consider the case a closed book.

The group of cases associated with general systemic disease includes a number of more or less distinct etiologic types corresponding in general to the old term "chronic myocarditis." This latter term is being gradually discarded as insufficiently explanatory and pathologically incorrect. As Christian, who has championed the phrase, points out [2] there may, even microscopically, be no inflammation of the heart muscle.

The relative frequency of the different etiologic types varies in different parts of the world and even in different sections of our own country. In this Rocky Mountain area, as in most of the northern United States, the rheumatic is the most numerous group. It appears from my figures that it is even more frequent than in Boston or Virginia. In such a semi-southern state as Virginia [3] it is considerably less frequent than in New England,[4] and if one goes about the wards of the Charité Hospital in New Orleans, one sees a preponderance of syphilitic cases over rheumatic. In this connection, I was told by a physician practicing in Central Africa that there rheumatic fever and rheumatic heart disease are infrequent. In this Rocky Mountain area it appears that the thyroid type is relatively frequent and the syphilitic type infrequent.

TABLE 1.—*Etiology of Heart Disease*

	Utah 700 cases	New England 3000 cases	Virginia 300 cases
Rheumatic	42.27%	31.8%	21.98%
Arteriosclerotic	21.57%	28.8%	45.66%
Hypertensive	13.13%	23.6%	45.98%
Hyperthyroid	9.13%	2.26%	3.66%
Syphilitic	.85%	3.18%	11.0%
Unknown etiology	6.14%	2.7%	2.33%
Hypothyroid	.14%	0.02%	
Subacute bacterial endocarditis	.28%	1.5%	
Acute bacterial endocarditis	.14%		
Congenital	.86%	1.2%	1.0%
Toxic	.43%	.13%	
Anemic	.28%	.05%	
Angina pectoris	8.4%	11.7%	9.33%
Coronary occlusion	.28%	2.3%	
Auricular fibrillation	8.7%	12.5%	
Cardiac neurosis	13.85%	10.1%	Not considered

Note: Some cases in each group have more than one etiology.

PROCEDURES IN DIAGNOSIS

In discussing the method of diagnosis of a given case, I wish to consider principally those procedures most frequently neglected with resultant error or those regarding which present-day opinion differs from that of the past. For simplicity's sake let us follow the patient through the logical order of examination.

In the first place, we observe the approaching patient and, if we have seeing eyes, can learn much before a word has been spoken. Physicians of the older generation are often better observers than those of the younger generation with the overemphasis in their training of laboratory procedures. There is the unsmiling type who carries the weight of the world on her shoulders, usually a neurotic; the thyroid type whose knees are never still, the hypertensive type who sits on the edge of the chair and moves as if in response to a starter's gun. Even in the acutely ill, the general appearance may give valuable evidence for or against a specific cardiac diagnosis. A short time ago I saw a patient complaining of extremely severe precordial and substernal pain unrelieved by a quarter grain of morphin given an hour before. Of course one thought of angina pectoris or coronary artery occlusion, but when one noted that he writhed around in bed and even got up on his hands and knees, one felt fairly certain that neither of these could be the diagnosis, since in either the patient tends to remain quiet—to splint himself. The true diagnosis proved to be tabetic crisis. I do not mean to advocate "snap-

shot" diagnosis, but to suggest that the use of instruments of precision need not preclude the use of the eyes.

Then, as the patient tells us of his symptoms, we try to find the circumstances, psychic, physical or infectious, preceding their onset. The elicitation of psychic trauma preceding onset is most difficult but exceedingly important, not only in leading to a diagnosis, but later in determining treatment. Among the present series was one, all of whose symptoms dated from a doctor's examination, one from the first knowledge of her husband's infidelity and, of course, the usual ones due to war experience.

If cardiac disease is suspected, the patient is likely to complain of dyspnea, palpitation, or precordial pain. Not only must we determine the conditions producing these symptoms, but must realize that one or all of these may be symptoms either of organic cardiac disease, of cardiac neurosis, or of disease entirely apart from the heart such as tuberculosis or anemia. According to our records, patients without any diagnosable heart disease admit dyspnea almost as frequently as the cardiacs.

In the minds of the laity, dizziness, fainting, or numbness are considered symptoms of heart disease. As a matter of fact, in young people these symptoms are seldom truly cardiac but rather result from neurosis or extracardiac disease.[5] In older persons, however, they may be significant.

TABLE 2.—*Symptoms in Three Groups of Cases*

Symptom	Valvular 100 cases	Neurosis 50 cases	Valvular and Neurosis 23 cases
Dyspnea	62%	76%	91%
Palpitation	44%	86%	91%
Precordial pain	20%	52%	52%
Dizziness	7%	40%	74%
Fainting	3%	26%	34%
Numbness or tingling	4%	18%	48%

As we bring out these and other symptoms, we must observe whether the patient puts them together in a logical manner. There was a girl, for example, who had been diagnosed as having valvular heart disease. The history showed that she could dance all evening without dyspnea or palpitation, yet in the home slight exertion was said to produce both. Such illogical combinations should cast doubt upon the presence or significance of organic cardiac disease.

The most difficult symptom to evaluate is precordial pain in persons over forty years of age. Even in mild degree or in the atypical types where all the pain is abdominal rather than precordial, it may be the only symptom of angina pectoris and may predict a sudden death. Or precordial pain may be unrelated to the heart but rather the result of gastric disease or other pathology. Only the most careful description of the pain and the fitting of the symptom to physical and instrumental examination may serve to determine its significance.

After securing such a history of the present illness, we delve into the past history, searching particularly for a cause for possible heart disease: rheumatic fever, thyroid disease, syphilis, past hypertension, etc. The history of such disease will later give point to our physical examination. Finally we bring out any other facts about the patient's past or present health. Even seemingly remote symptoms, apparently unrelated to the heart, may give the clue to a correct diagnosis. The cardiologist who is only a cardiologist might easily err through not realizing this point. Let me illustrate.

A woman of forty-one was referred to me for heart examination with particular request for x-ray and electrocardiographic studies, as ordinary examination left the nature of the condition in doubt. For eight to ten months she had complained of weakness, shortness of breath, and periodic blueness of the lips and cheeks. Except for headaches there were no other complaints, and the history revealed none of the usual causes for heart disease. She denied taking any medicines or drugs. Examination of the heart revealed no abnormality; it was noted that the patient breathed rapidly at rest and that the lips and cheeks were slightly bluish in color. Exercise or deep breathing caused this cyanosis to disappear. As the only other presenting symptom, inquiry was directed to her headaches and, after some questioning, it appeared that to relieve them she had been taking bromoseltzer for months, averaging the equivalent daily of five to forty grains of acetanilid. This she had not thought of as a medicine or drug. X-ray and electrocardiogram were unnecessary; all symptoms disappeared a few weeks after discontinuance of the bromoseltzer.

PHYSICAL EXAMINATION

We proceed to the physical examination. Not long ago, as a relic of the period of overemphasis of auscultatory signs, it was too commonly the custom to immediately use the stethoscope, often through a small opening in the shirt or through a layer or two of clothing. Fortunately the day of such "vest-button diagnosis" is past. We get the patient's chest uncovered and use our eyes first. We look for the apex impulse and abnormal pulsations or retractions. With the patient reclining, we observe the degree of filling of the veins of the neck, a simple and valuable indication of the function of the right ventricle. As I check over some of my own and others' mistakes, I find failure to do these things is a fairly frequent source of avoidable errors.

A few years ago a man of fifty-nine, applying for insurance, was referred to me by the home office for examination. He had been passed by a capable medical examiner as a first-class risk, but a nonmedical report to the company had cast doubt on this. As is usual in insurance examinations, the man denied all cardiovascular symptoms. The apex impulse was in the ordinary position; an ordinarily careful examination revealed no murmurs anywhere over the cardiac area. Except for accentuation of the aortic second

sound, the heart tones were of normal quality. There was no palpable thrill, but inspection revealed a visible pulsation in the first and second left interspaces, and careful percussion increased supracardiac dullness. With these findings as an indication, a faint aortic regurgitant murmur was discovered. There was no murmur over the aneurysm. X-ray confirmed the diagnosis of aortic aneurysm. In this case several of the cardinal symptoms were lacking and inspection of the chest was the procedure that led to diagnosis.

By careful palpation and percussion of the heart in patients who do not have too thick a chest wall it is possible to determine heart size with fair accuracy. Through haste or carelessness these procedures are often neglected and error follows. In one of my cases, a woman with indefinite cardiac history and symptoms, good heart sounds and no murmurs, I failed to recognize the presence of heart disease before an x-ray examination at a later date revealed the trouble. She was one of those women who are resistant to properly uncovering the chest, and I had percussed the heart outline so carelessly I had failed to recognize a considerable degree of cardiac enlargement. Not long ago a young man was referred as having an acute surgical abdominal condition because the physician had failed to outline by percussion a massive pericardial effusion.

At last our magic stethoscope appears and we proceed to search for murmurs. It has been said that the invention of the stethoscope has done more harm than good for cardiac diagnosis. In watching Sir Thomas Lewis work in London last year, I noted that a large percentage of his diagnoses were correctly made before use of the stethoscope. The significance of the various murmurs is too well known to justify discussion here. Let me, however, point out the changing attitude toward systolic murmurs and particularly toward the apical so-called mitral systolic murmur. Systolic murmurs at the base are usually functional. More and more there is a tendency to disregard apical systolic murmurs unless associated with the diastolic murmur of mitral stenosis, or with enlargement of the heart, or unless they follow recent rheumatic infection. If by ignoring many such murmurs we miss a few cases of organic mitral regurgitation, such lesions are usually unimportant and we do not do as much harm as by producing fear disability in many by falsely diagnosing heart disease on the basis only of a systolic apical murmur. May I illustrate with a case?

A woman of thirty-five had been helping care for a neighbor suffering from heart disease. Thinking it might be well to make certain of her own heart she went to a doctor for examination. Presumably only on the basis of a systolic apical murmur, she was informed that she had "leakage" and was advised to be careful. Following this she developed dyspnea and palpitation for the first time. A month or so later the neighbor died and the patient's symptoms became more pronounced. She was given digitalis without improvement. Two months later her father died suddenly of heart disease. The patient soon became so dyspneic that she was confined to bed. At the time I first saw her she was certain that if she raised up suddenly in bed it meant sudden death. Each night members of the family sat up with her "waiting for the end." She had no organic heart disease, but a cardiac neurosis suggested by a physician and accentuated by psychic trauma. She is now back to normal activity.

Richard Cabot, in reviewing 1906 cardiac cases found at autopsy, reports "seven cases of that rare condition, mitral regurgitation,[6] emphasizing the infrequency of this lesion as an isolated condition.

From the contrary point of view many patients with serious heart disease present no murmurs. In Vienna much emphasis is still laid upon auscultatory signs and, by their correlation with the abundant autopsy material, surprisingly accurate anatomic diagnoses are made, but often at the expense of an interest in the more important function of the heart.

Finally, we do a careful general physical examination to make sure that the supposed heart symptoms are not due to some condition outside the heart. An example of this is a recent case, previously diagnosed as heart disease unrelieved by rest and digitalis. Examination showed little or no evidence of heart disease, but the back of the lungs, which had not been previously examined, showed a massive right hydrothorax, later proved to be the result of a mediastinal tumor rather than heart disease.

OTHER AIDS IN DIAGNOSIS

Blood pressure and urine examinations need no comment. But our diagnosis may still be in doubt and we seek the aid of the x-ray and electrocardiograph. These two instrumental aids particularly characterize the diagnostic advancement of our own century. But, like all instruments, they may be misused or misinterpreted. Of course fewer errors would be made if all cases had both x-ray and electrocardiographic examination, but in general practice this is not practical because of its cost. So let us try to judge just what information may be expected from these procedures. The majority of cases of rheumatic valvular heart disease can be sufficiently accurately diagnosed without their aid. It is particularly in heart disease of doubtful etiology and in heart disease associated with general systemic disease—the chronic myocardial type—that these instruments are of value, sometimes indispensable.

The electrocardiograph, like most instruments, has gone through phases of overenthusiasm and undervaluation, and is only gradually assuming its rightful place. It records the electrical phenomena associated with the heart beat. It determines with certainty the meaning of the various types of abnormal mechanism. To consider only a few of its practical applications, it is the only certain means of differentiating between such irregularities as auricular fibrillation from premature beats, or premature beats from partial auriculoventricular block or sinus arrhythmia. As

the treatment is different in these different irregularities and the prognostic importance of each different, their distinction is an important and practical one. Likewise, without the record, it is often difficult to distinguish between the three types of rapid regular hearts, sino-auricular tachycardia, auricular flutter and paroxysmal tachycardia, or between the two types of slow regular hearts. In each of these conditions the therapeutic indication is different. The electrocardiogram gives useful information for the use or avoidance of digitalis and serves as the safest means of following the course of quinidin therapy. Its greatest value, however, lies in the evidence it gives of myocardial or coronary artery changes. In these conditions it may give the first or only evidence of disease and may furnish valuable prognostic data.[7] Intraventricular block or certain T-wave changes have a definite significance. It must, however, be recalled that it is possible to have a normal electrocardiogram despite serious heart disease. The instrumental findings are not a diagnosis in themselves, but only data to be used in making that diagnosis.

By means of the x-ray we may determine more accurately the size and shape of the heart outline and get reasonably accurate information of the relative size of the different chambers and of the aorta, information difficult or impossible to secure by any other means. Such information is not often necessary in rheumatic valvular disease in persons with thin chest walls, but if the chest wall is thick, or if aortic, coronary artery or myocardial disease is suspected, the x-ray examination may be indispensable. Of the methods of x-ray examination, fluoroscopy is the most valuable. For heart measurements it should be supplemented by an orthodiagram or a seven-foot plate.

When all our data, clinical and instrumental, have been assembled, our cardiac diagnosis will usually be evident. Occasionally, however, despite every possible examination, we are still in doubt whether or not an organic lesion of the heart exists. In such cases it was formerly the custom to tell the patient that he had a slight degree of cardiac disease, consoling ourselves with the thought that moderate restriction of activity would do no harm if it did no good. Today, after the Great War has taught us the frequency and disabling seriousness of cardiac neurosis, we feel that in such cases it is better to keep our doubt to ourselves and not inform the patient that he has heart disease—to give the heart the benefit of our diagnostic doubt.

Or when a positive diagnosis of heart disease has been made we should ask ourselves if this condition explains all the symptoms. I recall in this connection the case of a woman of forty who lay in bed complaining of great dypsnea, extreme weakness and fear of imminent death. Examination revealed a markedly enlarged heart—heart disease of unknown etiology, but there was no objective evidence of congestive or anginal failure. It soon became apparent that, while she had definite organic heart disease, most of her symptoms were due to a superimposed anxiety neurosis, which fact very greatly modified the treatment.

Finally we come to the question of the functional capacity of the heart which is more or less synonymous with prognosis and upon which treatment depends more than it does on the anatomic changes. To the patient, too, the outlook is of more importance than is some valve change which he does not understand.

The cause of the heart disease—the etiologic type—has great bearing on the prognosis. Obviously if the cause can be removed, as in thyroid heart disease or certain of the toxic types, the outlook is good. Syphilitic heart disease is usually progressive despite antiluetic treatment, and if congestive failure occurs, it is not likely to improve under digitalization. In the arteriosclerotic and hypertensive types prognosis depends not only upon these conditions, but upon kidney and blood-vessel pathology.

The character of murmurs seems to have little bearing on function or prognosis. Provided that there is not a thick chest, the character of the heart sounds is a fair indication of prognosis. The degree of cardiac enlargement is perhaps the most valuable single clinical sign with the exception of the arteriosclerotic group, where enlargement is not at all essential for a poor outlook.

Of the irregularities, premature beats, as recently shown by White in a large series of cases, do not materially modify the length of life while auricular fibrillation definitely shortens life. Reference has already been made to the significance of certain types of heart block determined by the electrocardiogram.

Tests of function, such as vital capacity, response of blood pressure and pulse to exercise, do not seem as useful to me as the patient's response to activities more nearly approximating his normal mode of life.

The bearing of occupation on prognosis is obvious.

In all cardiacs the length of life is profoundly modified by acute or chronic focal infections and his ability to avoid or eliminate them.

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THE BLOOD PICTURE IN HODGKIN'S DISEASE*

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DISCUSSION *by Ernest S. du Bray, M. D., San Francisco; John J. Sampson, M. D., San Francisco; Munford Smith, M. D., Los Angeles.*

SINCE the publication of Bunting's work in 1911 [1] and 1914,[2] analyzing a series of blood counts in Hodgkin's disease, our interest has been directed toward the importance of the blood picture in this disease. We use the term "Hodgkin's disease" in this paper instead of the newer nomenclature because of the fact that long usage distinguishes this disease from lymphosarcoma. Bunting's work tended to show that it is possible to divide cases of Hodgkin's disease into two distinct groups, according to the differential count of the leukocytes. The first group, consisting of cases of one year or less duration, showed a normal or decreased percentage of polymorphonuclear neutrophils. The second group, those cases of longer than one year duration, showed a leukocytosis, running in one instance to 100,000 leukocytes per cubic millimeter. The leukocytosis present was found to be made up of a neutrophilic percentage between 72 and 90 per cent. The most striking feature of the differential count was the increase in the transitional leukocyte, a large mononuclear cell with indented, irregular nucleus and fine azurophil granulation with Wright's stain. These cells were found increased in both groups. The lymphocytes might be increased in the very early cases, but tended to decrease in the later cases, varying from 7.6 to 3.4 per cent. The eosinophil count was found to be variable, never high except in rare cases. The basophils were increased in early cases, later tending to disappear from the circulation. Platelets were always increased in both groups.

The analysis in this report is patterned after Bunting's analyses. The chief reason for publishing these data is to again call attention to the value of carefully made blood counts in this disease and to emphasize the fact that an increase in the eosinophilic percentage in the differential count is not an important and a constant feature in the blood picture. Many students and practitioners hold this idea, apparently having been taught it at some time in their careers. There are certain exceptional cases of Hodgkin's disease that show a remarkable eosinophilia, as, for example, the following case from the male medical ward in the University of California Hospital. An average of ten blood counts shows this composite leukocyte and differential count: Red cells, 4,874,000; hemoglobin, 88.3 per cent; white blood cells, 43,875; polymorphonuclear neutrophils, 14; polymorphonuclear eosinophils, 65.5; polymorphonuclear basophils, 1.2; lymphocytes, 11.3; and monocytes, 8. One or two of the differential counts in this individual showed as high as 80 per cent eosinophils. There was an extensive erythema and infiltration of the skin in this patient.

ANALYSIS OF TABLES

An analysis of Table 1 shows twenty cases on whom ninety-three blood counts were made. There are twenty-one composite counts entered in this table, but Case No. 26716 appears twice, having two sets of blood counts in two different entries. The average hemoglobin and average red cell count for the group shows a moderate secondary anemia. The average white count is 11,728, slightly above the usual normal, but still within the higher limits of normal. The polymorphonuclear eosinophil, basophil, and lymphocyte ratios are within normal limits, but the monocytes, 10.2 per cent, are increased. The large mononuclear cell and the transitional are grouped together in this study under the term "monocytes." We have been unable to find any definite criteria to differentiate between these two types of cells, so we group them under the term "monocyte." The normal percentage of monocytes is taken as about 6 to 8 per cent of all the leukocytes.

Table 2, comprising cases of more than one year's duration and up to thirteen years, in one case shows an average white cell count of 14,350 white cells per cubic millimeter. This count is an average of eighty counts made in twenty patients. In this group it will be noted that the polymorphonuclear ratio averages 68.4 per cent, not much higher than Table 1. A few cases with low neutrophil count serve to bring down the percentage. The eosinophil count averages 2 per cent, the lymphocyte count 20.7 per cent, and monocytes 8.5 per cent. The monocyte count is only slightly increased in this group.

Table 3 is composed of two small groups divided as to time limits into Group "A," one year or less; and Group "B," more than one year. These cases have had very carefully performed white blood counts with the differential count checked by the author. These groups are small, but are worth recording as several counts have been made in each case and a composite average recorded in the table. It is interesting to note that in Group "A," of one year or less duration, the white cell count and differential is within normal limits with the exception of the monocytes, which are increased. In Group "B," cases of more than one year duration, the white cell count averages 11,500, a slight increase with an increase in the percentage of polymorphonuclear neutrophils at the expense of a decrease in the lymphocyte percentage. The monocyte count is 10 per cent, the same as Group "A." The platelets and reticulated cell counts have been recorded in Table 3. The platelets are not particularly increased in the averages shown. By the method used [3] 300,000 falls well within the normal range. The reticulocyte count in Group "A" indicates that the marrow is fairly active in the early cases. In Group "B" it appears to indicate some "falling

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TABLE 1.—*Cases of Apparent Duration Under One Year*

Sex and Case No.	Age	Diagnosis by Biopsy or Autopsy	Apparent Duration of Disease	Number of Blood Counts	Hgb.	Erythrocytes	White Blood Cells	N	E	Bas.	L	M	Plates.
M 8127	17	B. A.	1 yr.	4	81	3,630,000	17,510	82	1.2	.3	9.	7.4	
M 2869	33	B.	6 mos.	2	70	5,200,000	9,700	85	3.		8	4	Number appears normal
F 8950	54	B.	8 mos.	2	85	4,280,000	9,300	75	1.	.5	19	4.5	
M 13876	22	B. A.	1 yr.	9	50	3,600,000	12,830	20	.7	.5	77.2	1.6	
M 18468	42	B.	6 mos.	6	47	3,130,000	10,400	80	1.	.1	15.7	3.2	
M 12699	50	B.	7 mos.	3	87	4,960,000	6,000	52	7.	.7	26.3	14.	
M 25746	41	B.	8 mos.	5	71	3,600,000	6,100	74	1.2	.2	15.	9.6	
M 25751	34	B.	5 mos.	3	90	5,020,000	7,150	51	2.	.7	37.	9.3	
M 22992	40	B.	9 yrs.	2	75	3,952,000	9,150	79	2.	0.	14.	5.	
M 10851	29	B.	4 mos.	1	85	4,352,000	13,800	46	14.	0.	25.	15.	
M 33396	23	B. A.	3 mos.	11	62	3,517,000	17,400	85.5	0.	.1	8.3	6.1	592,000
F 12909	33	B. A.	1 yr.	2	95	4,760,000	5,650	75.	1.	0.	19.	5.	
M 16599	39	B.	10 mos.	9	76.5	3,898,000	7,000	80.	3.1	.2	9.	8.7	
F 46234	62	B.	9 mos.	1	80.	4,430,000	17,840	85.6	0.	0.	9.	5.4	
F 23656	65	B.	6 mos.	2	94.	5,420,000	7,800	67	1.	.7	26.	5.3	
M 26716	21	B. A.	11 mos.	5	48.5	3,724,000	44,250	88	2.2	.2	4.2	5.4	
M 26716	21	B. A.	1 yr.	4	49	3,095,000	84,960	89	3.2	0.	4.5	3.3	
M 13760	24	B. A.	6½ mos.	11	50	4,080,000	33,300	89.2	.2	0.	4.9	5.7	
M 43370	47	B. A.	4 mos.	3	89	4,625,000	5,640	63.3	2.	.1	23.3	11.3	
M 20334	42	B.	5 mos.	2	83	4,900,000	5,400	53	4.5	1.	28	12.5	
M 8226	22	B.	8 mos.	6	48	3,549,000	9,220	65.2	1.5	.3	24.	9.	
				93	72	4,200,000	11,728	60.4	2.4	.4	26.6	10.2	

B—Biopsy A—Autopsy N—Neutrophils E—Eosinophils Bas—Basophils
L—Lymphocytes, large and small M—Monocytes which include large mononuclears and transitionals

off" in the regenerative power of the bone marrow in those cases beyond one year in duration.

SUMMARY

The results of our blood studies in Hodgkin's disease conform in a general way to the results and conclusions worked out by Bunting several years ago. In our results it is difficult to be sure of the duration of the disease from the history obtained from the patient. In Table 1 there are undoubtedly some inaccuracies with respect to the duration of the disease, as the onset is nearly always insidious and the patient is not aware of the disease until it has been progressing for several weeks. It is very important to realize that occasionally leukemia-like blood pictures may occur in Hodgkin's disease, as seen in this patient at the age of thirty-six who entered the male medical ward at the University of California Hospital from the medical clinic with a leukocyte count of 36,200; polymorphonuclears, 14 per cent; lymphocytes, 86 per cent. From his history the duration appeared to be about eight months. His blood count after entry to the hospital was: hemoglobin, 75; red blood cells, 4,460,000; white cells, 25,000; polymorphonuclears, 35; large lymphocytes, 2; small lymphocytes, 60; and monocytes, 3 per cent. This patient had a paraplegia, and an x-ray film of the spine showed nodules in one of the lower dorsal vertebrae.

CONCLUSIONS

This analysis substantiates the idea that later in the disease, beyond the first year, the leukocyte count tends to become increased, with an increase in the polymorphonuclear leukocytes. Also there is an average and fairly constant increase

TABLE 2—*Cases of Apparent Duration of One Year or More*

Sex and Case No.	Age	Diagnosis by Biopsy or Autopsy	Apparent Duration of Disease	Number of Blood Counts	Hgb.	Erythrocytes	White Blood Cells	N	E	Bas.	L	M	Plates.
F 21763	54	B. A.	3½ yrs.	10	50	3,215,000	11,196	85.	2.7	.9	1.8	10.6	
M 23730	22	B.	3 yrs.	5	60	3,591,000	5,240	70.	1.	.0	20.6	8.4	
F 47044	45	B.	4 yrs.	1	79	4,100,000	8,680	57.	7.	2.	26.	8.	
M 47336	26	B.	18 mos.	1	65	4,010,000	16,850	16.	4.	0.	72.	8.	
M 47322	46	B.	14 mos.	1	80	4,150,000	9,400	72.	2.	0.	19.	7.	
M 24678	10	B. A.	18 mos.	5	83	4,606,000	15,740	80.	.7	.3	10.	9.	
M 14490	24	B. A.	14 mos.	11	50	4,084,000	33,000	89.	.2	0.	5.	5.8	
F 16034	25	B. A.	3 yrs.	1	65	3,000,000	10,600	66.	0.	0.	24.	10.	
M 38003	15	B. A.	6 yrs.	1	35	2,240,000	35,500	89.	0.	0.	5.	6.	
M 38427	21	B. A.	21 mos.	2	42	2,943,000	22,500	82.5	2.5	0.	10.	5.	
F 31786	30	B.	8 yrs.	5	75	4,010,000	10,730	81.	2.5	.2	11.	5.3	
M 46455	8	B. A.	2 yrs.	8	37	2,041,000	5,600	87.	.4	0.	6.	6.6	405,000
M 10391	47	B.	2 yrs.	5	50	3,141,000	10,100	66.	4.6	.6	22.	6.8	
F 13704	37	B.	16 mos.	2	65	4,320,000	15,900	86.5	.5	.5	9.5	3.	
F 1521	27	B.	1½ yrs.	1	55	4,488,000	14,800	60.	1.	0.	30.	10.	
F 598	52	B.	5 yrs.	1	90	5,240,000	12,000	47.	8.	0.	36.	9.	
M 33735	40	A.	13 yrs.	7	61	3,220,000	20,900	83.	0.	0.	13.5	3.5	
M 25556	43	B.	1 yr. 9 mos.	10	60	3,200,000	3,500	57.6	1.4	1.	25.	15.	432,000
M 16219	22	B.	4 yrs.	2	90	4,500,000	11,300	22.5	.2	.5	62.	15.	
F 16980	35	B.	5 yrs.	1	75	3,592,000	13,500	72.	5.	0.	6.	17.	
				80	63	3,684,550	14,350	68.4	2.	.02	20.7	8.5	

B—Biopsy A—Autopsy N—Neutrophils E—Eosinophils Bas—Basophils
L—Lymphocytes, large and small M—Monocytes which include large mononuclears and transitionals

in the mononuclear cells. For some reason our platelet counts are not high, as other authors have found them. This is a matter for further investigation. The eosinophil count averages about normal or below but may occasionally be very high, reaching in one instance 80 per cent of the total leukocytes.

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DISCUSSION

ERNEST S. DU BRAY, M. D. (490 Post Street, San Francisco).—I think it is safe to say that Doctor Falconer has brought together in the foregoing paper the largest and most completely studied group of cases of Hodgkin's disease, from the blood standpoint, that has appeared in the American medical literature since the classic contributions of Bunting. It is rather significant that this study confirms Bunting's work in the chief essentials. Although it is true the blood picture alone cannot be relied upon absolutely to make the diagnosis in a border-line case, nevertheless it is of value in offering strong corroborative evidence in cases of general glandular enlargement. Such conditions as lymphosarcoma, tuberculosis, leukemia, and infectious mononucleosis are among the frequent confusing disturbances that come to mind in the differential diagnoses of glandular enlargement. To be sure the biopsy is nowadays resorted to early, but at times even the pathologist hesitates to go on record positively from a study of the gland tissue.

In a general way it can be said that Hodgkin's disease usually presents a secondary anemia which increases as the disease progresses. The white blood count may be normal early in the course of the illness, but later a moderate leukocytosis between 10,000 and 20,000 usually appears. The polymorphonuclear neutrophils gradually increase and are found

TABLE 3.—*Groupings Based on Time Limits**

Sex and Case No.	Apparent Duration of Disease	White Blood Count	N	E	B	L	M	Plates.	Retic. Reds
			GROUP "A"—*Less Than One Year*						
F 1	1 yr.	5,650	73	2	0	13	10	312,000	2.
F 2	10 mos.	6,400	50	6	1	34	9	160,000	1.2
M 6	11 mos.	7,850	80	1	0	12	7	420,000	2.6
M 4	1 yr.	10,400	77	1	0	13	9	260,000	4.4
F 8	8 mos.	9,000	36	2	1	44	17	268,000	.8
M 9	1 yr. 11 mos.	6,600	65	3	0	20	12	368,000	.6
M 13	7 mos.	9,550	73	1	0	23	3	480,000	2.
		7,921	65	2	.3	23	10	324,000	2.3
			GROUP "B"—*More Than One Year*						
M 3	18 mos.	9,900	80	0	0	8	12	325,000	.8
M 5	2 yrs.	6,350	65	1	0	10	24	184,000	.2
F 7	4 yrs.	9,450	70	2	0	22	6	310,000	.4
M 10	2 yrs.	6,920	70	2	0	23	5	254,000	1.2
M 12	1 yr.	32,000	79	3	1	10	7	532,000	3.7
M 11	3 yrs.	9,600	80	3	0	10	7	164,000	1.2
M 14	1 yr. 4 mos.	6,300	72	1	0	19	8	355,000	.0
		11,503	74	2	.1	15	10	303,428	1.1

*Special counts checked by author done in the Hematology Clinic.
N—Neutrophils E—Eosinophils Bas—Basophils L—Lymphocytes, large and small
M—Monocytes which include large mononuclears and transitionals Plates.—Platelets Retic. Reds—Reticulated red cells

commonly between 70 and 90 per cent, with an absolute increase in the transitional cell, which Doctor Falconer includes in his monocyte group. Bunting, it will be recalled, emphasized the absolute increase in the transitional cell even in the early cases.

Most observers have noted a definite increase in the platelets, but as the exact numerical determination of platelets depends considerably on the method used, this may partially account for this apparent discrepancy in that the platelets in this present study appeared about within normal limits. Another feature, with reference to the platelets that some observers have noted, was the conspicuous presence of giant platelets in considerable numbers. The presence of marked eosinophilia has undoubtedly been overstressed as an important feature of the blood picture. It may be said, however, that it does occur, particularly with either one of two conditions existing, viz.: widespread skin involvement or a necrosis in lymph glands.

In conclusion, I would like to compliment Doctor Falconer on the concise and yet complete way the above study is presented. He has again shown that the Oslerian method of an intense study of a single phase of a well-known disease is not without profit.

✲

JOHN J. SAMPSON, M. D. (490 Post Street, San Francisco).—Doctor Falconer, as Doctor du Bray has pointed out, has rendered a genuine service in stabilizing our knowledge of the changes that take place in the blood in Hodgkin's disease.

I believe that there are some remarkable variations in morphology that are worthy of mention, in addition to the changes in total and relative numbers of blood cells that Doctor Falconer summarizes. The monocytes (large mononuclear leukocytes or endothelial leukocytes), in my experience have often been found to assume the same forms frequently seen in subacute bacterial endocarditis, namely, increase in size, vacuolization, and definite large pseudopod formation.

The platelets, especially during the phase of the disease in which they are increased in number, have been observed to be increased in size, occasionally as much as twenty microns. Such platelets are more liable to be elongated along a single meridian.

There is still a difference of opinion as to recognition of Hodgkin's disease as a separate entity in contrast to its possible classification in a general lymphoblastoma group. Transitional cases occasionally appear which seem to link it with either lymphosarcoma on one extreme or lymphatic leukemia on the other.

I believe it is wise to withhold the decision as to which of these conclusions may be correct, and therefore still reserve the possibility of interpreting these blood changes in another light than that they may be characteristic of Hodgkin's disease, as a distinct clinical entity.

✲

MUNFORD SMITH, M. D. (1105 Roosevelt Building, Los Angeles).—Doctor Falconer has presented a large, interesting group of cases of Hodgkin's dis-

ease, thoroughly studied from the standpoint of the blood picture. It well illustrates that there is a slightly higher white cell count and increased polymorphonuclear neutrophil count in the older cases; also, that there is rarely an eosinophilia in Hodgkin's disease, which is an incorrect point of differentiation so frequently insisted upon.

At the time that this paper was presented to me I was particularly interested in the differentiation between Hodgkin's disease and tuberculous adenitis, having recently seen several cases where a question had arisen. I had made a partial survey of the literature, but had found nothing so well covered as in Doctor Falconer's paper. Biopsy still remains the method of choice to differentiate between several conditions which may be confused with Hodgkin's disease.

SYSTEMIC BLASTOMYCOSIS*

REPORT OF CASES

By GEORGE D. MANER, M. D.
AND
ROY W. HAMMACK, M. D.
Los Angeles

DISCUSSION *by W. T. Cummins, M. D., San Francisco; H. A. Wyckoff, M. D., San Francisco; Newton Evans, M. D., South Pasadena.*

THE term "blastomycosis," in its broad sense, includes all diseases caused by yeast-like fungi, that is, fungi which appear in the lesions as round or oval cells, sometimes budding, but usually without mycelium. These fungi are generally called blastomycetes, and include members of several genera.

However, in this country the tendency has been to restrict the term "blastomycosis" to infection with *Blastomyces dermatitidis* (Gilchrist and Stokes) and there seems to be constant effort to designate otherwise infections with related but distinct organisms. This is particularly true in California, where infection with *Coccidioides immitis* is so frequently seen. While several cases of coccidioidal infection have been reported in the literature as systemic blastomycosis, they were so reported because the organisms were not differentiated, and the true nature of the infection was not recognized.

CASTELLANI'S CLASSIFICATION OF BUDDING FUNGI

Castellani [1] has recently proposed a new classification of the yeast-like or budding fungi, based on the presence or absence of mycelium, and presence or absence of ascospores, which includes families of both Ascomycetes and Fungi imperfecti.

(*a*) Family Saccharomycetaceae, with budding cells, asci and ascospores, but no mycelium in culture.

(*b*) Family Endomycetaceae, with budding cells, asci and ascospores with mycelium in culture.

(*c*) Family Cryptococcaceae, with budding cells (blastospores), no asci and no mycelium in culture.

(*d*) Family Oösporaceae, with budding cells, no asci but mycelium in cultures.

He creates a new genus, which he calls Blastomycoides, under Family Oösporaceae, in which he places three species: 1. *Blastomycoides dermatitidis,* synonym—*Blastomyces dermatitidis* (Gilchrist and Stokes). 2. *Blastomycoides immitis,* synonym—*Coccidioides immitis* (Rixford and Gilchrist). 3. *Blastomycoides tularensis* (Castellani). He defines the genus Blastomycoides as: "Oösporaceae appearing in the lesions as large roundish cells from eight to twenty microns in diameter, or larger, with the protoplasm containing a number of well-marked granules or spherules, and with a membrane showing a well-defined double contour: in dextrose agar cultures a large amount of mycelium is present." There are slight cultural differences of the three species when grown on mannitol, glucose, lactose and galactose agar.

In justifying his reasons for placing Coccidioides in the above genus, he contends that "the spherules found in the large round cells are not ascospores, but are protoplasmic granules, and that in culture, when one of the organisms produces a bud, which later becomes a filament, the same granules are seen in the mycelium." He also states that Coccidioides grows in cultures as a saccharomyces type which reproduces by budding, and a filamentous type.[2] He moves the species *Coccidioides immitis,* genus Coccidioides, family Endomycetaceae, class Ascomycetes, to genus Blastomycoides, species *Blastomycoides immitis,* family Oösporaceae, class Fungi imperfecti.

Thus, he also moves *Cryptococcus dermatitidis,* synonym—*Blastomyces dermatitidis* (Gilchrist and Stokes) from genus Cryptococcus, family Cryptococcaceae to family Oösporaceae, genus Blastomycoides, species *Blastomycoides dermatitidis.*

We agree with Castellani on the value of a better classification, but do not feel that the species *Coccidioides immitis* should be grouped in genus Blastomycoides, even though it has cultural characteristics similar to others of this genus. He apparently has arrived at this classification of the organism wholly upon the cultural characteristics without regard for the generally accepted ideas of the morphology of the organisms in the lesions, that is, he does not agree with other observers on the method of reproduction of Coccidioides in tissues, viz., multiplication by endosporulation with complete absence of budding.

Therefore we feel that *Coccidioides immitis,* in spite of cultural similarity, is not sufficiently closely related to *Blastomyces dermatitidis* to be placed in the same genus.

The two cases which we report as generalized or systemic blastomycosis are caused by organisms of the species *Blastomyces dermatitidis* (Gilchrist and Stokes), or *Blastomycoides dermatitidis* (Castellani).

NATURE OF BLASTOMYCOSIS INFECTION

Little is known of the source and manner of infection. In some cases the primary focus has

* Read before the Pathology Section of the California Medical Association at the fifty-eighth annual session, May 6-9, 1929.

apparently been the lungs. In the majority of cases the disease is confined to the skin, but may enter the system from that location.

The lesion of cutaneous blastomycosis is fairly typical. It begins usually as a papulopustule which slowly enlarges, flattens down and forms crusts over the center. The surface becomes irregular and papillomatous, the edges elevated, firm and deep red. Extension may be in one or all directions. The histologic picture is characteristic. There is a large amount of carcinomatoid overgrowth of epithelium, numerous intraepithelial abscesses and abscesses beneath the epithelium, as well as granulomatous lesions which contain the organisms.

In systemic infections the lesions of the viscera resemble greatly those of miliary tuberculosis, but in the supporting tissues there is more tendency to suppuration and frequently burrowing abscesses are formed. The lungs are always involved, the spleen and kidneys usually, other organs less frequently. But the list of organs involved in the sum total of cases includes practically every tissue.

The microscopic appearance of the lesions closely resembles that of tuberculosis, but often differs from it in the larger numbers of polymorphonuclear leukocytes present, and in the presence of the parasite.

Clinically the disease may resemble tuberculosis in being a chronic febrile disease with pulmonary symptoms. However, its clinical manifestations are as variable as those of tuberculosis. In many cases multiple abscesses have appeared in various parts of the body with the symptoms of a chronic pyemia. These abscesses may rupture forming ulcers or sinuses. In several cases subcutaneous nodules were the first external manifestation of the disease, and followed systemic symptoms. In others, cutaneous blastomycosis has existed for some time before systemic symptoms appeared. The diagnosis depends upon the demonstration of the parasite in pus or tissues. The addition of 10 per cent sodium hydrate to pus tends to cause disintegration of the leukocytes, and causes the organisms to stand out clearly. The organisms have been found in the sputum and have been recovered from the blood stream.

Treatment of the systemic cases has been unsatisfactory. Many therapeutic agents have been used, but of these only potassium iodid seems to have been of any value. Even this has been successful in very few cases.

REPORT OF CASES

Case 1.—The patient was a male, white, age thirty-five, an electrician. His first admission to the Los Angeles General Hospital was on January 13, 1920. He was first on the service of Doctor Lovejoy, later under Doctor Scholtz. Six or seven months before admission a pustule appeared on the chin; it was somewhat painful. It opened after being poulticed with "Denver mud," but continued to grow. Soon after the appearance of the first lesion others appeared. He was treated by a physician with iodin, scarlet red, and phenol at different times, but the lesions continued to grow.

Fig. 1.—Cutaneous lesions, Case 1

At the time of admission examination showed a well-developed man with no abnormal physical findings other than the lesions of the skin. There were five of these, one on the chin, one on the left eyelid, one on the right side of the neck, one on the left shoulder, and one on the fourth toe of the right foot. The lesion on the eyelid was 1.5 centimeter in diameter, elevated, with reddened edges, a small area of ulceration in the center covered by a crust. Conjunctiva was reddened and the eye somewhat painful. The other lesions were 3 to 4 centimeters in diameter, oval, elevated and partially covered by yellowish crusts. The edges were firm and reddish. Beneath the crusts was a little pus; the surfaces were deep red, irregular and somewhat papillomatous. A small piece of tissue removed from one of the lesions showed the typical microscopic picture of blastomycetic dermatitis. Attempt to culture the organism was unsuccessful. The blood Wassermann was negative.

Three days after admission the patient left the hospital but returned thereafter twice weekly for treatment. Treatment consisted of local applications of trichloracetic acid, x-ray, and potassium iodid by mouth.

For some time there was marked improvement in the lesions. The lesion of the eyelid gave the most trouble, as it was hard to treat and was often painful.

On July 22 he was again admitted to the hospital complaining of general malaise, headache, weakness, and pain in left eye. Headaches were frequent, but there were no other signs suggesting meningeal irritation. The pain in the left eye was constant and later had to be controlled by morphin.

The day after admission his temperature was 103 degrees, pulse was 108, and respiration was 20 at 3 p. m. This was the highest temperature recorded. It averaged about 99 in the mornings and 101 degrees in mid-afternoon. Pulse was 80 to 100. He became gradually weaker and died August 29, 1920. On July 28 he had 14,000 leukocytes, 57 per cent polymorphonuclears, 37 per cent small mononuclears, 4 per cent large mononuclears, 1 per cent eosinophils,

and 1 per cent basophils. A blood culture taken July 27 remained sterile. Urine was normal.

Autopsy.—Autopsy was not obtained until July 31, nearly forty-eight hours after death. A summary of the report is as follows:

Body emaciated, postmortem discoloration of abdomen. Over the left eye are crusts and pus, the upper lid is completely destroyed, as also the median end of the lower, for a distance of about one centimeter. The cornea is opaque. On the left side of the lower jaw is a large ulcerated area five centimeters in diameter, extending from the mouth to the chin. This is covered with crusts and pus; edges are slightly elevated, the base fairly smooth. A thin layer of epithelium extends a short distance inward from the elevated edge. On the right side of the neck is a lesion eight by four centimeters; on the front of the left shoulder, one five by three centimeters; on the right fourth toe, one covering the dorsum—all similar to the one described.

The left lung is bound by numerous fibrous adhesions, the right is free. Palpation of the left lung revealed many shot-like nodules throughout. Otherwise the lung is soft. Posterior part is red, but not moist. The cut surface shows many small gray nodules two to three millimeters in diameter. Occasionally two or more of these are fused to form a larger nodule. There appears to be some increase in the connective tissue about the nodules where they are thickest, especially in the upper lobe. Bronchi contain mucopurulent exudate. Right lung is similar in every respect. Peribronchial lymph nodes are not enlarged.

No lesions are found in other organs.

The lung picture resembled closely a miliary tuberculosis. Cultures were made from the lung lesions, but only staphylococci were obtained. Microscopic examination of sections showed tubercle-like structures containing many giant cells. In these structures were found the parasites, small spherical bodies ten to twelve microns in diameter with double-contoured membranes. Occasional budding forms were found. The organisms were present both in the giant cells and lying free in the tissue.

* * *

Case 2.—Negro, male, age thirty-four, occupation freight handler. Residence in Los Angeles County seven months. Previous residence, Louisiana and Arkansas.

Illness began in January of 1925 with chills and fever, weakness and progressive loss of weight. He had daily fever, was able to be up but not to work. On March 1 he became bedridden. Loss of weight continued. On April 1 he noticed abscesses over right leg which were opened. Was admitted to hospital May 2, 1925.

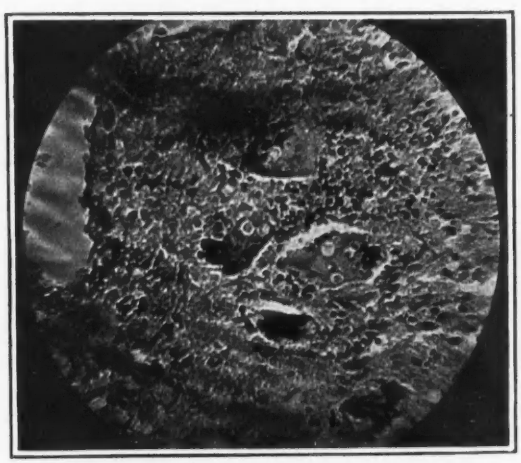

Fig. 2.—Section from lung showing organisms in giant cells

Examination revealed a greatly emaciated, acutely ill patient, with temperature 101 degrees, pulse 128, and respiration 32. There was a punched-out ulcer on inner aspect of right heel, a discharging sinus in the middle third of inner aspect of right leg, and abscesses over the tuberosity of right tibia and upper third of outer surface of the right leg. Several healed scars over right leg. A large abscess over left shoulder. A verrucoid lesion on the bridge of nose and on left cheek. Physical examination of chest revealed signs suggesting both active and fibroid pulmonary tuberculosis. Pus aspirated from abscess of left leg showed budding blastomyces. Cultures of this gave a heavy, white, fluffy, mycelial growth. Sputum positive on one occasion for tubercle bacilli. Patient was given potassium iodid by mouth and neoarsphenamin intravenously with no improvement. He died June 19, 1925.

Autopsy.—Emaciated negro male. On left cheek a raised, encrusted lesion containing creamy gray pus; the scab is easily removed, leaving a red, granular and verrucoid surface. Similar lesion on bridge of nose. Irregular, encrusted, verrucous lesions over left shoulder and scapula, mid-portion of volar surface of left forearm, base of left thumb, and dorsal surface of base of left fifth finger. Small subcutaneous abscesses in anterior portion of left temporal region, medial surface of right forearm, left thigh and upper portion of left leg. Right ankle is swollen and presents several sinuses which extend into the joint. Partial destruction of talo-tibial joint capsule, and erosion of articular cartilages. Right elbow joint distended with fifty cubic centimeters of pus. Articular cartilages eroded.

Left pleural cavity completely obliterated with dense fibrous adhesions. Right, few adhesions at apex.

Right lung weighs 1320 grams, firm and diffusely nodular. Pleura presents numerous semitranslucent, miliary nodules. Hilar nodes enlarged, black, pigmented, but no nodules. The cut surface shows numerous small, gray, opaque and semitranslucent miliary nodules, more numerous in lower lobe. Anterior portion contains pneumonic patches. No cavities.

Left lung weighs 720 grams. Firm and nodular. Surface roughened with fibrous tags and miliary nodules. Hilar nodes enlarged, pigmented but no nodules. At the apex there is an irregular, outlined, solitary cavity four centimeter in diameter lined by a thin, fibrous wall and filled with sanguinopurulent material. Cut surface studded with nodules which are larger and more opaque than those in the right lung.

Kidneys are slightly enlarged. The surface, after stripping the capsule, is studded with a few small, yellow, opaque, miliary nodules. Organ infiltrated with amyloid.

No nodules found in other viscera.

Microscopic.—The lesions in the skin were characteristic of blastomycetic dermatitis with carcinoid overgrowth of epithelium and numerous intra- and subepithelial abscesses containing the round and budding organisms. Tubercle-like nodules in corium, organisms in giant cells and free among the tissue cells. Heavy eosinophilic infiltration.

Lungs.—Numerous tubercle-like nodules with central necrosis in some. Organisms in giant cells and free among the tissue cells. The lesions closely resemble tubercles, and, in absence of blastomyces, would probably be considered as such. Acid-fast stains made of lung lesions but no tubercle bacilli found. In the pneumonic areas many blastomyces, polynuclear leukocytes, and large mononuclear cells were found in the alveoli. Pus from elbow and ankle

joints contained many budding organisms. Cultures of the organism were obtained from this pus and from lung lesions.

COMMENT

In Case 1 the skin lesions preceded the development of systemic symptoms by several months. In Case 2 the duration of the skin lesion was not definitely ascertained and may also in this case have preceded systemic involvement. In Case 2 the cavity in the lung was probably of tuberculous origin since acid-fast bacilli were found in the sputum. Lesions in the bones, joints and subcutaneous tissues were especially striking in Case 2 while absent in Case 1. The treatment instituted had no apparent effect on the disease in either case.

SUMMARY

It seems better at the present time to limit the term blastomycosis to infections with the specific organism *Blastomyces dermatitidis* (Gilchrist and Stokes).

Two cases of systemic blastomycosis with autopsy findings are reported. These illustrate the variability of the distribution of the lesions in different cases.

523 West Sixth Street.

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DISCUSSION

W. T. Cummins, M. D. (Southern Pacific General Hospital, San Francisco).—The debatable matter in this publication is the classification proposed by Castellani. We agree with the authors that the organism causing blastomycosis must not be of the same genus as *Coccidioides immitis*, for we believe that they have different methods of reproduction. This alone seems to be a sufficient reason for their generic differentiation. If the classification of Castellani were adopted, in the writer's opinion it might promote further confusion in the differentiation of blastomycosis and coccidioidal granuloma. Culturally and clinically we know well that the diseases closely resemble each other and that either may be, and doubtless frequently has been, diagnosed as tuberculosis.

Potassium iodid failed as a therapeutic agent in each of the patients. It is unfortunate that a number of blood cultures are not made on each blastomycetic case (as well as coccidioidal), for it seems likely that the widely disseminated lesions must be induced at least terminally by blood vascular transportation of the infectious agent. It is not unlikely that we shall find that the coexistence of active tuberculosis and mycotic disease of this type is not unusual.

This paper is of timely value not only in the presentation of data for the clinician and pathologist, but also in reminding them to keep alert as to the importance of mycotic diseases, their careful study and differentiation.

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H. A. Wyckoff, M. D. (Lane Hospital, San Francisco).—The two cases reported in this paper should prove a valuable addition to the literature of mycotic diseases, and this is especially true in view of the comparative completeness of the observations.

While a close interrelationship of the mycoses is obvious from more than one standpoint, the endeavor of these authors to maintain a sharp distinction between blastomycosis and coccidioidal granuloma is fully justified.

Recognizable differences in the clinical course in these diseases suggest a difference in causative organism and, even though the fungi show similarity when grown upon artificial culture media, the manner of reproduction in the tissues is quite different and seemingly invariably constant.

*

Newton Evans, M. D. (710 Orange Grove Avenue, South Pasadena).—The authors' contention concerning the classification and nomenclature of the organism studied and its dissimilarity to the parasite of coccidioidal granuloma appears to me to be well grounded.

The anatomical findings in these two cases are quite similar to those reported in others of systemic blastomycosis. The absence of distinct blastomycotic lesions of lymph nodes is like the majority of cases described. It would have been of interest had observations been made upon the brains, or at least mentioned if they were included in the examinations. Rarely are brain lesions found, and where they have been present the lesions were in the brain substance rather than the meninges. The characteristic subcutaneous abscesses and the deep, crusted ulcers which were a prominent feature here are like others reported and in contrast to the more superficial lesions of "blastomycetic dermatitis."

The geographical distribution of this mycotic disease as compared with that of coccidioidal granuloma is a striking feature. One of these patients came from the southern part of the United States and possibly brought the infection with him. The previous places of residence are not mentioned in the other case. If there are recorded cases of blastomycosis of persons who have lived only in California they must be very few. The great majority have occurred in the central and southern states. In contrast, the cases of coccidioidal granuloma occurring outside of California are uncommon.

A TUBERCULOSIS CLINIC FOR CHILDREN*

By Lloyd B. Dickey, M. D.
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THE results of educational campaigns directed against tuberculosis are mirrored in ever decreasing mortality rates from this disease. Early diagnosis being the clue to early and permanent arrest, campaign slogans have continually emphasized the nature of early symptoms in adult pulmonary tuberculosis. Education of the public has taught it to know these symptoms, and has contributed largely to the increasing number of cases early diagnosed. There has followed, in consequence, the removal of tuberculous individuals as contacts to susceptible children, which probably explains the recent lessened incidence of tuberculous disease in the young.

TUBERCULOSIS SYMPTOMS IN CHILDREN DIFFERENT FROM ADULTS

Most children who come to the physician to be examined for evidence of tuberculosis do so because of their history of contact with an open case of this disease. Probably many more who should come fail to do so because parents or guardians do not appreciate that significant symptoms in children are not the same as those for

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adults. The children being free of the symptoms from which the adults suffer, the significance of the contact is not appreciated. Those who frequently see tuberculous disease in children know how seldom hemoptysis, productive cough, night sweats, and loss of weight are symptoms of early juvenile tuberculosis of any type. They also realize how seldom a physical examination of the chest yields any information valuable in diagnosing early tuberculosis in children.

Before the public may be educated to and appreciate the difference between the early symptoms of adult and of juvenile tuberculosis, it is first absolutely necessary that physicians and other workers in tuberculosis be educated to this difference. Many cases could be cited of detailed histories of contact children, taken by tuberculosis nurses and other workers, where a careful inquiry was made into the occurrence of night sweats (properly called slumber sweats), hemoptysis, cough with sputum, loss in weight, and other symptoms only common in adult pulmonary tuberculosis. While all of these may occur in the juvenile type of the disease they are usually not significant in early cases.

The real injustice to the children comes from the physician in the tuberculosis clinic, who, with a negative history of the above symptoms, examines a child's chest, elicits no signs, and dismisses it as undiseased. Yet such things happen, and happen in clinics conducted especially to diagnose tuberculosis in its incipiency.

The study of tuberculosis in childhood, during which time most individuals contract their initial infection, is important for a proper understanding of the evolution of the disease. It is probable that the course of the infection in this period determines the degree of resistance in adult life, when at least casual exposure to this ever present disease must be constant. Realizing that to control any disease it must be attacked at its source, the San Francisco Tuberculosis Association in 1925 aided in establishing a clinic for the detection of tuberculosis in childhood at Stanford University Medical School. A similar clinic was held at the University of California Medical School, although the methods of study differed in minor details. The outline of the work presented below is that initiated at Stanford.

OUTLINE OF CLINIC WORK AT STANFORD

The Clinic Itself.—An ideal tuberculosis clinic for children should have ample funds at its command so that no aid in diagnosis need be omitted. The item of roentgenographs being one of the most important from a diagnostic standpoint, and the expense of these being one of the heaviest drains on the funds of any clinic where these must be paid for, funds for them should be provided before any attempts at diagnoses be made. In our clinic, expenses were chiefly financed by the San Francisco Tuberculosis Association, and at no time during the three years the clinic has been held was it necessary to defer or omit the taking of any roentgenogram essential in the diagnosis of a single case. Expenses were also considerably curtailed because of the courtesy of all members of the department of roentgenology of the medical school in giving large amounts of their time in consultation.

The clinic should be an integral part of a general children's clinic, which in turn should be a part of a general dispensary. An isolated clinic for suspected tuberculous individuals would seem at a distinct disadvantage as compared with one which had facilities for refers and consultations with other medical workers.

The Medical Staff.—Ideally such a staff would consist of several workers interested in the study of tuberculosis, the number depending upon the number of children available for examination, and would consist of physicians who were seeing at the same time large numbers of normal children, and children suffering from other conditions not allied to tuberculosis. The physicians should have an adequate knowledge of adult tuberculosis, in addition to a more complete knowledge than the average physician has about tuberculosis in childhood. A short time of training in a tuberculosis sanatorium would give such workers a valuable perspective, and an appreciation of the differences between adult and juvenile tuberculosis could be gained. The physicians should be thoroughly familiar with the accepted aids in diagnosing juvenile tuberculosis, both active and latent; and after the gathering of data, should know how properly to evaluate the history, the physical examination, the roentgenographs, the tuberculin tests, and the laboratory aids.

The Nursing Staff.—The duties and functions of the nursing staff should be, first, taking of most of the histories, the performing of the tuberculin tests, and the assembling of the data for diagnosis, after the physician has performed the physical examination. Upon this division of the staff would fall the burden of the social service work; the visiting of patients who failed to return for tuberculin readings; home visiting to prepare families of patients for the institutionalizing of their children, when necessary; and the completion of the routine necessary for placing an active patient in an institution.

The ideal nurse for such a clinic is one who knows more about tuberculosis than does the average nurse. She should be able to do tuberculin testing and should know what a positive test means, and what it does not mean. She should be able to explain intelligently to a mother the significance of a positive test. She should be able to take a good history, and should therefore know the significant symptoms of childhood tuberculosis. She should know the treatment of tuberculosis, and should have the ability to explain to a family the necessity of the proper treatment, and the ability to reconcile them to the absence of the child from the home when institutional care is necessary.

With an equal number of patients, the work of a visiting nurse in a children's clinic for tuberculosis would be considerably greater than in a clinic for adult patients. As compared with juve-

nile tuberculosis the adult type is relatively easier to diagnose. In the latter often a single clinic visit is sufficient for diagnosis if a careful history be taken, a complete physical examination be done, with roentgenological and sputum examinations. Many children must have a rather intensive period of observation before the aids at our command for diagnosis can be properly evaluated, and this may necessitate many "follow-up" visits.

Diagnosis and Disposition of Cases.—In three years time over 2500 children from our clinic were tuberculin tested, approximately 700 reacting positively, and the latter were selected as patients for this clinic. The occasional failure of tuberculous patients to react to intracutaneous tuberculin is relatively unimportant, and practically never occurs in ambulant patients reporting to an out-patient clinic. Such a phenomenon occasionally occurs in patients overwhelmed with tuberculous disease, where other signs and symptoms are present in sufficient number to diagnose tuberculosis without the aid of the skin test. We have never seen a proved case of tuberculous disease that reacted negatively to tuberculin intracutaneously with a dose of one-tenth milligram of K. O. T.

A record was started for all patients reacting positively. Each patient had of course, in addition, a clinic chart in which was a record of the history of all complaints, diagnoses, and treatments at the children's clinic. By the use of the signs + and — for positive and negative findings, the entire record as to tuberculosis is condensed, and the data assembled on a single card. Subsequent findings on successive visits to the clinic could be tabulated and progress noted without hunting through masses of records. The reverse side of the card was used to record the date, size, and area of the tuberculin test, to elaborate on positive findings which needed further description, and notes as to final disposition or outcome of the case.*

After the evaluation of the aids in diagnosis, the history, the physical examination, the roentgenograph, the tuberculin test, and the laboratory findings, a diagnosis was made on each case. Then came the problem of disposing of the cases which were diagnosed as active, suspected, or latent tuberculosis.

Such a clinic should have access ideally to several types of institutions. Active cases should be sent to a special institution for tuberculous children, thus initiating the most important single step in the treatment of juvenile tuberculosis, which is the removal of the patient from the contact. The institution should be one where the remainder of the treatment of childhood tuberculosis, both general and special methods, are understood and where the facilities for carrying out this treatment are adequate. It is especially important that facilities for natural and artificial heliotherapy be supplied, and that special surgical procedures can be carried out if necessary. It should be an institution where children are kept in absolutely separate wards from open cases of tuberculosis. Most cases of tuberculosis in childhood are not in themselves contagious, but in the few instances where this does occur, these patients should be separated from active "closed" cases.

Cases classified as suspected usually need further observation. There should be available some bed space where an intensive work-up of these cases can be completed, and where they can be observed for a period of study. The teaching wards of Lane Hospital, which is the teaching hospital for the University Medical School, served such a purpose for our clinic. Other places available for suspected cases are the tuberculosis preventoria for children, several of which are in the vicinity. Cases classified as suspected should, of course, be placed in one of the other two groups as soon as possible.

Many cases classified as latent may be dismissed to return in several months for further observation. Others need treatment for some other ailment, and attention called to the correction of certain defects. Some of these patients are suitable candidates for convalescent homes, or for a stay in the country under the stimulating benefits of fresh air, sunshine, and proper food.

From the 700 cases of tuberculous infection obtained from a testing of over 2500 children, the following diagnoses were made:

Tuberculosis, lymph nodes, active	15
Tuberculosis, lymph nodes, healed	5
Tuberculosis, bones and joints, active	23
Tuberculous pleuritis, with effusion	13
Tuberculosis, hilar, suspected	173
Tuberculosis, hilar, active	65
Tuberculosis, latent	396
Tuberculosis, pulmonary, adult type, suspected	12
Tuberculosis, pulmonary, adult type, active	21
Tuberculosis, pulmonary, adult type, latent	6
Tuberculosis, miliary, active	4
Tuberculosis, miliary, healed	2
Tuberculosis, meninges, active	6
Tuberculosis, kidneys, active	3
Tuberculosis, skin, active	2
Tuberculosis, choroid, active	2
Tuberculosis, active, of epididymis, peritoneum, and larynx, each	1

We feel that, except for the careful study that this special clinic afforded, many of the cases would have been misdiagnosed, or undiagnosed. The status of the children diagnosed as latent tuberculosis, or the so-called "pretuberculous" children, is especially important to determine. This is the potentially diseased group among which the satisfying but rather undramatic practice of preventive medicine can be instituted. From the standpoint of the diagnosis of cases alone, the clinic has amply justified its existence, and the money expended in it. Besides this it has afforded an excellent opportunity for a study of the incidence of tuberculous infection among children in the vicinity, of tuberculous disease among those infected, and the experiment has accumulated a wealth of material for further clinical study. The association of this clinic with the children's clinic

*Copy of the Stanford chart used for filing a condensed record of patient's condition will be sent on application to the author.

of the Stanford Medical School has been of great value in the teaching of tuberculosis in childhood, and has helped many future practitioners of medicine to realize the importance of such an ever present medical problem.

Stanford Medical School.

ANESTHESIA FOR CHILDREN*

WITH REFERENCE TO ORTHOPEDIC SURGERY

By JAMES RAYMOND MARTIN, M. D.
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IN the administration of anesthetics to children needing orthopedic surgery, we are confronted with two problems. First and most important, the carrying of the patient through the operation with the minimum amount of shock and undesirable postoperative effect. Second, making the anesthetic as pleasant as possible for the patient. Many of these children need several operations before the desired results are obtained, and a disagreeable anesthetic experience at the first operation may upset the whole plan of the surgeon.

CASE RECORDS HERE REVIEWED

It is with these two problems in mind that this résumé has been prepared. It is based on the past four years' anesthetic records of the Los Angeles Orthopedic Hospital. These records cover a total of 1807 general anesthetics, including both major and minor operations, with tonsillectomy excluded. There have been no deaths. In one case a possible pneumonia followed an ether anesthetic in a little Mexican child. This patient was considered a poor risk and was complicated by a postoperative staphylococcus wound infection. Most of the anesthetics have been given by one person and all by skilled anesthetists. Only a portion of the 1807 anesthetics records have been selected for this survey. The records for 1928 were chosen because a more accurate record system has been in use in the past two years. Before discussing these records several points are worthy of mention in regard to preparation and technique. See Tables No. 1 and 2.

PROCEDURES USED

These surgical patients have a two-day preparation during which time the usual examinations and surgical preparations are made. This is a period when the patient should be put at ease, so that the stage of excitement on entering the operating room is almost nil.

It is our rule not to hold or tie the patient on the table when the anesthetic starts. An attendant standing by is able to guide the hands away from the mask. Using nitrous oxid or ethylene induction there is seldom any resistance, especially when the eyes are allowed to remain uncovered. Patients are anesthetized on their backs regardless of the location of the operation. When it is necessary to turn a patient flat on the abdomen, a small sand bag placed under the left shoulder and another under the left hip will lift the body enough to make breathing much easier. In this way respiratory muscles are relieved from lifting the body at each respiration, preventing respiratory fatigue. The diaphragm is not crowded up by the abdominal contents, giving more freedom for the heart action. This position does not interfere with spinal fusion or other back operations, and seems to be a great aid in the prevention of both cardiac and respiratory fatigue.

Most orthopedic operations are not emergency surgery. Therefore the operative work is done at a time when the patient is in the best physical condition. Oftentimes it is necessary to have the patients under medical care several weeks before they are considered safe risks. This care no doubt is a big factor in the ultimate results. Acute osteomyelitis, accident cases and spastic paralysis make up the larger part of the poor risks. By studying the accompanying chart, we find that, out of a total of 486 cases, some were considered A risks, some were B risks, some were C risks, and some D risks. The spastic paralysis cases are usually considered B risks because of the instability of the autonomic nervous system.

The condition of the patient at the close of the operation was found to correspond very closely to the condition when the anesthetic began. The figures show a good general condition for 88 per cent, a fair condition for 12 per cent, and a poor condition for .01 per cent. The degree of shock or circulatory depression at the close of the operation corresponds very closely to the type of surgical risk to be operated. We find: first degree, or no shock, 87 per cent; second degree shock, 12 per cent; third degree shock, .01 per cent.

The length of time and severity of the operation, the loss of blood, and the fear on the part of the child are all important factors which must be considered as producing shock. In the series here reported 165 operations were less than thirty minutes in length, with very little hemorrhage. However, this group included a number of hip reductions in infants which produced a noticeable degree of shock. There were 307 operations, ranging in time from thirty minutes to over two hours in length, including such operations as open hip reductions, ramisectomy and spinal fusions, procedures which produce a great deal of shock and considerable loss of blood.

Secondary or follow-up operations at too short intervals for recuperation also tend to produce shock and leave the patient in poor condition. The anesthetic in these patients seems to come secondary to the surgery in the postoperative effect.

FIGURES FOR DIFFERENT ANESTHETICS

Ethylene was adopted as a routine anesthetic in this hospital early in 1927 and has since been used for all general work unless contraindicated.

In this résumé ethylene was given in 76 per cent of all the anesthetics. The full number include twelve instances when nitrous oxid was substituted while the motor saw was being used; one hundred and ten cases in which a small

* Read before the Anesthesiology Section of the California Medical Association at the Fifty-Eighth Annual Session, Coronado, May 6-9, 1929.

TABLE 1.—*Showing Total Number of Patients and Classification*

	Ethylene	Ethylene and Ether	Ether	Nitrous Oxid and Nitrous Oxid and Ether	Total
Cases	251	110	60	65	486
Risks	A 209 B 37 C 5	A 89 B 13 C 6 D 2	A 50 B 10	A 65	A 413 B 60 C 11 D 2
Shock	1 218 2 33	1 85 2 20 3 3	1 54 2 5 3 1	1 63 2 2	1 420 2 60 3 4
Postoperative condition	G 209 F 20 P 2	G 99 F 6 P 5	G 38 F 22	G 64 F 1	G 430 F 49 P 7
Nausea	No 209 Moderate 42	No 78 Moderate 32	No 40 Moderate 19 Severe 1	No 61 Moderate 4	No 386 Moderate 97 Severe 1
Less than thirty minutes	85 85	17	23	40	165
More than thirty minutes	152	93	37	25	307
Urine	Negative 232 Acetone 5 Albumin 2	Negative 76 Acetone 31 Albumen and casts 3	Negative 49 Acetone 11	Negative 54 Acetone 6	Negative 411 Acetone 53 Albumin 2 Albumin and casts 3

amount of ether was used to get complete relaxation in the absence of a preoperative narcotic. The addition of ether in most cases was for only a very small part of the anesthesia.

In this group appear most of the serious operations and also the largest percentage of the poor risks. Twenty-eight per cent of the children in this series were under eight years of age. Their records correspond very closely with 72 per cent that were over eight years of age. The number of male and female patients was about evenly divided and showed no noticeable differences in anesthetic reaction.

In this group receiving ethylene and including those that received a small amount of ether in addition, we find the percentage of good condition higher at the close of the anesthetic than the per cent of good risks before operation in spite of the fact that the anesthetics were longer and the operations more severe.

A little larger per cent showed signs of shock, or circulatory depression, before they left the table, but this quickly passed off when they were returned to bed. The estimation of shock was by pulse only, the blood pressure not being taken. A large percentage of the ethylene patients vomited when the mask was removed, but this complication is not noted in the records. Only the nausea and vomiting after the patient was returned to bed was recorded. In a very small per

TABLE 2.—*Showing Totals of Table 1, Transposed into Percentages*

	Ethylene	Ethylene and Ether	Ether	Nitrous Oxid and Nitrous Oxid and Ether	Total
Cases	251	110	60	65	486
Risks	A .83 B .15 C .02	A .81 B .12 C .05 D .008	A .83 B .17	A 1.00	A .85 B .123 C .023 D .004
Shock	1 .87 2 .13	1 .77 2 .18 3 .27	1 .90 2 .08 3 .017	1 .97 2 .03	1 .86 2 .12 3 .008 † .004
Postoperative condition	G .91 F .08 P .008	G .90 F .05 P .05	G .63 F .37	G .98 F .02	G .885 F .101 P .01
Nausea	No .83 Moderate .17	No .11 Moderate .29	No .66 Moderate .37 Severe .02	No .94 Moderate .06	No .80 Moderate .20 Severe .002
Less than thirty minutes	.39	.15	.38	.62	.34
Over thirty minutes	.61	.85	.62	.38	.63 † .03
Urine	Negative .92 Acetone .02 Albumin .007	Negative .69 Acetone .28 Albumin and Casts .03	Negative .82 Acetone .18	Negative .83 Acetone .09	Negative .85 Acetone .11 Albumin .004 Albumin and cast .006 † .04

† Cases not recorded.

cent was this continued longer than two hours. There was a larger number in this group showing acetone the first twenty-four hours. This seems to be confined largely to the long operations and the poor risks.

Preoperative narcotic was used in 25 per cent of the cases exclusive of children under eight years of age. This is too small a number to draw any definite conclusions. However, in those cases in which it was used, the results to the patient have been favorable and, from the anesthetist's standpoint, very helpful.

Morphin and atropin have been used mostly, but recently scopolamin has been added with very gratifying results. It appears that, with more experience in its use, scopolamin may become an adjunct to anesthesia for children.

A few times a respiratory paralysis was observed. The breathing can be readily reëstablished by inflating the lungs immediately with oxygen and carbon dioxid, but it must be done before the pulse begins to slow and become weak.

The group of patients who receive ether alone has become steadily smaller each month until now this group includes only 14 per cent of those anesthetized. Most of the ether anesthesias were given either by colleagues who feel a little timid about handling all patients under nitrous oxid or ethylene, or because the surgeon requested its use. Ether was also used with infants. It has been the anesthetic of choice for the infant because of the broad margin of safety.

Recently we have obtained a small mask that enables the administration of nitrous oxid and ethylene to very small children, and our results correspond with those of the older children. In this group all ages are represented and the average risks are included. Most of these were short, light anesthetics. The percentage of postoperative depression is higher than for other anesthetics. The amount of shock is less. The explanation of this may be the fact that both ether and nitrous oxid are circulatory stimulants, while ethylene is a slight depressant. The result of stopping the anesthetic removes this stimulant and a depression is noted. Acetone was present in 18 per cent of the cases receiving ether alone.

The group of patients to whom nitrous oxid or nitrous oxid and ether anesthesia was administered was considered A risk. Most of the surgical work was of a minor character, such as closed reduction of fractures, manipulation of club-feet or congenital dislocated hips. The procedures used were such that very little shock was produced, and only light anesthesia was required.

Because of the danger of explosion from ethylene when the x-ray or fluoroscope is used, nitrous oxid has been the anesthetic of choice for this type of work, ether being added for a few minutes to get relaxation if necessary. This group represents a larger proportion of minor work and should not be contrasted with the other groups where there are poorer risks, longer and deeper anesthesia, and more severe surgical shock.

Moderate nausea was noted in only four of the sixty cases. The condition of the patients after return to bed was good in all cases except one, which was considered fair. The record of the postoperative urine findings showed 83 per cent clear, and 17 per cent showed acetone the first twenty-four hours.

SUMMARY

It is fully admitted that there are many valuable facts concerning the anesthesia for children which might be gleaned from further study of this small series of case records. These records represent the total series of 1807 cases, beginning with a higher percentage of ether anesthetics, while later nitrous oxid was in the lead. The past eighteen months, ethylene has been used almost as routine anesthetic.

It would seem that each anesthetic agent has its merits and its shortcomings. In this type of work the anesthetic of most merit and best suited for the individual case should be used. The physical and mental condition of the child on entering the operating room, the care and skill of administering the anesthetic, the length of time and severity of operation, are all important points to be noted just as in adult anesthesia. In conclusion, from a study of this series it would seem that the proper handling of the patient, both before and during the anesthetic, is as important as the type of anesthetic used.

746 Francisco Street.

CARCINOMA OF THE UTERUS—ITS TREATMENT BY RADIATION*

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AND
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DISCUSSION *by R. R. Newell, M. D., San Francisco; Lyell Cary Kinney, M. D., San Diego; H. J. Ullmann, M. D., Santa Barbara.*

THE first radium treatment for carcinoma of the uterus was given by Abbe in New York in 1905. Following this the technique was rapidly developed in this country, and also in France, where faith in radium has remained constant and where it has largely replaced surgery. Results became better as the radium technique in carcinoma of the cervix improved, until at present it is the method of choice in practically all medical centers.

CLASSIFICATION ACCORDING TO EXTENT

In the consideration of the treatment of carcinoma of the cervix, it is important to group the cases according to the extent of the disease. The following grouping advised by Schmitz [2] is the one generally used in this country:

Group 1.—Comprises the cases in which the cancer is clearly localized to the cervix.

Group 2.—In which doubt exists as to localization. These cases usually show a doughy or

* From the Albert Soiland Clinic, Los Angeles.

* Read before the union meeting of the Surgical sections of the California Medical Association at the fifty-eighth annual session, Coronado, May 6-9, 1929.

edematous consistency of the paracervical tissues. (Border-line cases.)

Group 3.—Cases in which there is an induration of the contiguous tissues and organs. (Inoperable group.)

Group 4.—Contains the cases in which there are necrotic craters, frozen pelvis, advanced cachexia, and distant metastasis.

Early cases which would compare with Group 1, as above, are rarely seen, and probably do not amount to more than ten per cent of the cases of carcinoma of the cervix applying for treatment at the various hospitals and clinics. Less than five per cent of 550 cases of cervical carcinoma treated at the Soiland Clinic during the past six years would fall into this group. Most of the very early cases were those which were accidentally discovered.

We are not including a statistical review of the results from our own clinic because it has been impossible for us to obtain a complete follow-up system, and not until recently have we insisted upon biopsy and microscopical examination in every case. Statistics are certainly not of much value if it is impossible to trace a considerable percentage of cases. Our clinic records extend back to the first days of the use of radiation, and the number of five-year symptom-free cases which we have been able to trace leads us to believe that our statistics, were they complete, would compare favorably with those from reliable sources which are quoted in this article.

SURGICAL STATISTICS

The surgical results in carcinoma of the cervix have been extremely poor even from the most radical operations. Heyman [1] found, in collecting statistics from twenty large clinics (5806 cases), that the absolute five-year cure amounted to only 19.1 per cent. These results are from clinics of the best operators, using the most radical forms of operation.

For many years practically everyone has been willing to allot most of the border-line or doubtful operable cases, and all of the advanced cases, to radiation treatment but, until recently, some have insisted on surgery in the early cases. From twenty-four different clinics Heyman [1] collected 3659 cases (early and border-line corresponding to Groups 1 and 2 as outlined) which were treated by surgery alone. He found only 35.6 per cent cures. The mortality amounted to 17.2 per cent.

The high mortality (8 to 20 per cent—Polak [4]), and the high morbidity detract greatly from surgical results. Wertheim had a mortality of 30 per cent in the first 100 cases in which he carried out his radical operative procedure. This causes one to wonder what mortality and morbidity the average surgeon must have who attempts this radical operation, and who probably does not operate on 100 cases during his entire career.

The difficulty of technique and the high mortality of radical operations, as the Wertheim, has caused the average surgeon often to do only the ordinary panhysterectomy or, as in some cases of carcinoma of the fundus which we have been called on later to treat, only a subtotal hysterectomy was performed. Of course, the above procedures are unjustifiable. Certainly, the five-year cures would undoubtedly be very few if statistical results were available in these cases.

It is difficult to improve surgical technique much further, as the vital organs surrounding the cervix limit the extent of the radical procedures. On the other hand, radiation technique is being constantly improved and the percentage of five-year cures is increasing from year to year in various clinics.

John G. Clark, of Philadelphia, who was one of the pioneers in the development of the radical operation, even preceding Wertheim, was one of the first men in this country to give up surgery in carcinoma of the cervix in favor of radium.

RADIATION IN EARLY STAGES

Radiation has not been used in early and border-line cases of carcinoma of the cervix a sufficient length of time for a very large series of cases to be collected. Heyman [1] collected 960 cases from twelve different clinics, treated exclusively by radiation. He found 34.9 per cent five-year cures, with a mortality of less than two per cent. In the statistics collected by Heyman, the operability in the surgical cases was 43 per cent as compared to less than 30 per cent in the radiological figures. Even though the surgical and radiological results in the early cases appear similar, the advantage of radiation treatment is obvious when the 17 per cent mortality of the surgical statistics is considered. In clinics where a careful follow-up system is maintained, percentages of five-year radiation cures in early cases have been reported which are much better than the average referred to in Heyman's article, the Radiumhemmet in Stockholm [1] reporting 44.4 per cent and Ward [5] at the Woman's Hospital Clinic, New York (May, 1928) reporting 53.1 per cent five-year cures. These facts have caused the majority of the important gynecological clinics in this country and abroad to use radium and roentgen ray exclusively in all cases of carcinoma of the cervix.

As for the use of the cautery, Greenough [3] reports from the material collected for the American College of Surgeons, that of fifty-two cases reported where the cautery alone was used, there was *not a single five-year cure.*

IMPORTANCE OF THE CONSIDERATION OF RADIOSENSITIVITY

Increasing attention has recently been given to the consideration of the type of cell in the particular growth and to the question of radiosensitivity. For many years it has been noted that cervical carcinoma has varied in its response to radiation. Where the conditions clinically appeared similar, and were treated by the same technique,

it has been observed that the response in one case would be slow and uncertain, while in other cases the disease would melt away rapidly and completely. It is now known that this is largely due to a difference in radiosensitivity of the cells.

CLASSIFICATION ACCORDING TO CELL TYPE

The method of grading the degree of malignancy used at the Memorial Hospital in New York, and worked out by Doctors Healy [7] and Cutler, with the coöperation of Doctor James Ewing, is probably the simplest and most satisfactory for practical purposes. The cases are graded according to the degree of anaplasia present in the cells and the relative amount of stroma. The greater the degree of anaplasia the more malignant the cell. The different grades are described as follows:

Grade 1.—Adult type. Cells adult in character, highly differentiated, with a tendency to hornification and pearl formation.

Grade 2.—Plexiform type. Only partial differentiation and moderate anaplasia. Squamous characters either slight or, more often, absent. The growth may be atypical but lacks diffuse infiltration; there is a partial loss of polarity. The cells are large and frequently show a plexiform arrangement.

Grade 3.—Anaplastic type. Cells small, round or spindle shaped, the nucleus markedly hyperchromatic with numerous, atypical mitosis. The cells show absence of squamous characters, atypical qualities, complete loss of differentiation, and diffuse infiltrative growth.

Group 1 has a low degree of malignancy. Group 2 medium, and Group 3 a high degree of malignancy. The more malignant the cells, the more radiosensitive they are; hence Group 3 is highly radiosensitive. Healy found that 96 to 98 per cent of their cervical cases were squamous epidermoid carcinomata, only two to four per cent being adenocarcinoma arising from the cells of the cervical mucous glands.

It is not always possible to determine the degree of malignancy of the growth. Ward and Farrar [8] state that prediction of prognosis from the type of cell present has not been satisfactory, as pieces of tissue taken from different places in the growth have not always revealed the same type of cancer cells. Martzloff [9] found that in carcinoma of the cervix uteri a study of the biopsy material failed to indicate correctly the predominant variety of cancer cells in the parent tumor in about one-third of the cases. On account of the above findings, it is seen that an attempt to segregate the Grade 1 or less radiosensitive cases by biopsy, in order that they might be treated by surgery, would not be very practicable. We also know, as will be demonstrated in the next table, that a large percentage of the Grade 1 cases will respond to radiation treatment.

Healy,[7] in grouping 200 cases according to the degree of anaplasia and radiosensitivity, found the following:

TABLE 1.—*Grouping of Two Hundred Cases*

Cell Type		Number of Cases	Per Cent
Adult	I	35	17
Plexiform	II	123	62
Anaplastic	III	42	21

It is seen that the adult type, or the less radiosensitive type, forms the smallest group, with more than 80 per cent of the cases appearing in the more radiosensitive group.

The effect of the histologic cell structure upon end results is shown by Healy [10] in Table No. 2 of cases treated at the New York Memorial Hospital:

TABLE 2.—*Cases Treated at the New York Memorial Hospital*

Cell Type	Stage of Disease	Total No. of Cases	No. Well	Per Cent Cured 5 Years
Adult (Grade I)	Early and borderline	10	5	50
	Advanced	25	1	4
Plexiform (Grade II)	Early and borderline	21	9	43
	Advanced	102	15	14
Anaplastic (Grade III)	Early and borderline	9	6	66
	Advanced	33	14	42

In Table 2 it is demonstrated, the greater the degree of malignancy the more favorable the prognosis from radiation treatment. It is also seen that a large percentage of cures occurred in the Grade 1 cases, which are considered to be the least radiosensitive.

A comparison has been made of the surgical and radiological results in carcinoma of the cervix; showing that as the malignancy of the cell increases, the surgical results become poorer and the radiological results better. This is shown in Table 3.

TABLE 3.—*Percentage Incidence of Five-Year Cures for the Different Types of Epidermoid Carcinoma of the Cervix (After Healy) (Early Cases)*

	Spinal Cell Cancer (Grade II of Broders)	Transitional Cell Cancer (Grade III of Broders)	Spindle Cell Cancer (Grade IV of Broders)
Johns Hopkins Hospital (Martzloff) (Surgery)	47%	24%	9½%
Mayo Clinic (Broders) (Surgery)	53%	21%	9½%
Memorial Hospital (Radiation)	50%	43%	42% — 66% Adv. cases Early cases

Table 3 thus demonstrates that, in the cases of low degree of malignancy, surgical and radiological results are similar, while in the highest degree of malignancy surgery is almost useless and radiation is of great value.

VIEWPOINTS OF SOME SURGEONS

Swanberg [6] cites a few quotations from prominent surgeons and gynecologists which express the present-day opinions regarding the treatment of carcinoma of the cervix:

Dr. George Gray Ward, Professor of Gynecology, Cornell University.—"We believe that our results show that radium is preferable in all classes of cervical carcinoma."

Dr. William J. Mayo, Mayo Clinic.—"Cancer of the cervix even in the early stages is certainly as well treated by radium as by hysterectomy."

Dr. William P. Healy, Memorial Hospital, New York.—"Hysterectomy is no longer justifiable as the treatment of carcinoma of the cervix, based upon five-year results."

Dr. Charles C. Norris, Professor of Gynecology, University of Pennsylvania.—"We have not submitted a case of cervical carcinoma to hysterectomy for five years."

References could be given to many other large clinics, in this country and abroad, where radiation is used exclusively in all cases of carcinoma of the cervix.

TECHNIQUE OF RADIUM TREATMENT

In order to secure good results from the use of radium in carcinoma of the cervix, a carefully planned technique should be followed. At the present time the dangers of radium are few, except in the hands of the inexperienced, where great harm may result. Cases must be considered and treated individually, but as much standardization of technique as possible should be used. A specimen should be removed for diagnosis of the cell type in all cases of cervical carcinoma. This should be followed immediately by an application of radium. The habit of removing a section and waiting a week or ten days before instituting treatment is pernicious. At the present time we feel that a technique similar to that advanced by Heyman,[11] in which only heavily filtered radium is used, gives the best end results.

In the average cervical carcinoma favorable for treatment, we are at present dividing the treatment into two applications, with three weeks' time intervening. At the first application a total of 3500 milligram el. hours are given, applying 2100 milligram el. hours against the cervix, filtered by two millimeters of gold and one millimeter of rubber, and 1400 milligram el. hours intrauterine, filtered by one millimeter of gold and one millimeter of rubber. Three weeks later, by the use of similar filtration, a total of 3000 milligram el. hours are given, applying 1800 milligram el. hours against the cervix and 1200 milligram el. hours intrauterine. Three twenty-five milligram tubes are used in the vaginal applicator, and two twenty-five milligram tubes, placed in tandem, are used in the uterine applicator. These tubes are all covered by .5 millimeter of silver. The duration of the first application is twenty-eight hours and the second application twenty-four hours, the radium being applied against the cervix and intrauterine at the same time. Following this, no further radium should be given for from six to twelve months.

The patient is observed at monthly intervals, and late recurrences, appearing a year or so after the original treatment, are often treated with small doses of radium applied locally, although great care is exercised. Often suspicious thickened areas remain for several months and finally disappear. These areas should not be treated unless they are definite of malignancy. Experience of observation is a most valuable asset at this stage of the treatment.

VALUE OF ROENTGEN RAY TREATMENTS IN CONJUNCTION WITH RADIUM

Some gynecologists have used radium alone in the treatment of cervical carcinoma, with results which are good. In early cases radium alone may possibly be sufficient but, as urged by Schmitz,[12] roentgen ray should be applied to produce a homogeneous radiation throughout the pelvis, in order that the regional lymph nodes may receive sufficient radiation. Schmitz [13] found in his series of cases that there was a higher percentage of five-year cures in the group which received high voltage roentgen ray treatment in addition to the radium. For many years various writers have reported complete cures in cervical cases from the use of roentgen ray therapy alone. Recent reports by Zweifel [14] and H. Holzveissig [15] confirm this. Knowing the definite value of additional roentgen ray treatment, we believe that the patient should be given the advantage of this treatment following the radium in all cases, if there are no definite contraindications such as severe anemia or a poor general condition. We usually begin the high voltage roentgen ray treatments from ten to fourteen days after the last radium application, and we give as near a complete depth dosage as possible. The roentgen ray treatments may be given before the radium applications.

CARCINOMA OF THE FUNDUS UTERI

It has been estimated that only about ten per cent of uterine cancers originate in the fundus. Carcinoma of the fundus usually occurs after the menopause. Peterson states that 73 per cent of his cases were between fifty-five and sixty-five years of age. At this age, patients frequently show signs of degenerative changes in the heart and kidneys, and often are poor operative risks. Irregular bleeding after the menopause is indicative of malignancy, although not always. Very often the bleeding is from a benign condition; such as senile endometritis, senile vaginitis, hypertension, or cervical polyps. Benthin [16] found, in a series of 131 cases of bleeding after the menopause, that cancer was the cause in only fifty-six cases. In seventy-five of the cases there was no

tumor of any kind, either benign or malignant. Curettage is the most positive diagnostic method in this condition, but it is not by any means infallible. There are certain dangers to curettage in the presence of carcinoma. Victor-Pauchet [17] has pointed out that the removal of fragments of tissue from the body of the uterus may produce perforations which heal spontaneously, but which very frequently result in metastasis of the cancer. Pelvic peritonitis from the stirring up of an associated pyometra, as well as transtubal transplantations of carcinoma cells, has occurred. Certainly, if diagnostic curettage is to be done, it should be followed the same day by the application of radium, or by a total hysterectomy.

END-RESULTS IN SURGICAL TREATMENT AND RADIATION

The general belief is often expressed that the results in carcinoma of the fundus are very favorable if hysterectomy is done. An examination of the best operative statistics shows that such is not the case. Smith and Grinnell [18] report an absolute curability of only about 20 per cent. Clark and Norris [19] found that only 34.8 per cent of their cases were alive at the end of three years. Heyman [1] found 42.8 per cent absolute five-year cures in 318 cases gathered from six different foreign surgical clinics. In early cases, which were clearly operable, he found 58.8 per cent cures in 323 cases from eight different clinics. In 118 early, operable cases treated by radiation alone in five different clinics, he found 47.5 per cent five-year cures.

Heyman [1] has compared the five-year cures in carcinoma of the fundus at the Radiumhemmet with the best surgical statistics as follows:

TABLE 4.—*Comparison of Surgical and Radium Cures*

	Percentage of Surgical Cures	Percentage of Radium Cures
All cases	42.8%	43.5%
Early or operable cases	58.8%	60.0%

All inoperable cases of carcinoma of the fundus, and cases technically difficult of operation, should certainly be irradiated. It seems possible that even in the operable cases results may be obtained by radiation which would equal the present surgical results.

In the treatment of carcinoma of the fundus, we use combined radium and roentgen ray treatment. A total dosage of 4000 to 5000 milligram el. hours of radium, filtered by one millimeter of gold and one millimeter of rubber, is applied intrauterine. This is followed by deep roentgen ray therapy in about two weeks.

CONCLUSIONS

1. Roentgen ray therapy should be combined with radium in all cases of uterine carcinoma unless contraindicated by the poor, general condition of the patient.

2. Advanced cases of carcinoma of the fundus uteri should be treated by radiation alone. It seems possible that results may be obtained by radiation in early cases of carcinoma of the fundus which will equal the present surgical results.

3. Carcinoma of the cervix uteri is no longer a surgical condition and should be treated by radiation alone.

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DISCUSSION

R. R. NEWELL, M. D. (Stanford University Hospital, San Francisco).—At Stanford we have used a number of methods against cancer of the cervix: Single massive radium dosage in the canal, radium followed by radical operation, radium together with x-ray deep therapy, x-ray without radium. Our results have seemed to us much better since, under the influence of Heyman's work, we adopted straight radium treatment, heavy filtration, broken dosage.

Technique is of basic importance. Cross fire is the underlying principle. Experience in placing the radium is invaluable. The cases must be individualized. Dosage must be very heavy, yet one must avoid producing a fistula. Our vaginal applicators are two centimeters in diameter and are customarily packed into the lateral fornices. Thus fixed, one centimeter spacing of the radium away from vaginal mucosa is a safety feature of great importance. But the intrauterine applicator must be slim, so that cancer be not disseminated by vigorous dilatation.

We have stopped using x-ray to supplement the radium. This in spite of the fact that we have a very few cures from x-ray alone. These we attribute in each instance to extraordinary susceptibility of the patient to x-ray, amounting to idiosyncrasy. In most patients it is only by huge doses of radiation that a cure will be accomplished. Such huge doses can be done with radium because of the narrow field treated, but x-ray to the whole true pelvis cannot be given to a quarter that intensity without danger of roentgen ulcer or even fatal roentgen sickness. Safe x-ray

dosage will almost always help, sometimes definitely relieve, but when we are aiming at possible *cure*, then it is radium we depend on. To my mind the important difference between radium and x-ray is not in quality but in distribution of energy.

We have been advising surgical treatment in all operable cases of carcinoma of the body of the uterus. Soiland and Costolow show results of radium treatment just as good and without the primary mortality. We are quite in agreement with their heavy dosage. We have given 4000 mg. hrs. in one dose, by stringing several radium tubes the whole length of the uterine and cervical canal.

We are also in hearty agreement with their policy of refusing to treat again for a very long time. One has the best chance to cure a patient the first time he treats her and if then he has given all that is safe and finds later that this did not in fact cure her, he should have the courage to admit defeat. It then becomes important not to do anything to increase her suffering—and repeated heavy radium doses are likely to cause much and persistent pain.

The statistical studies according to stage of disease and cell type constitute an important advance in our knowledge of carcinoma of the cervix. They have confirmed us, too, in our intention to treat all cases by radium, whatever the stage or type.

*

Lyell Cary Kinney, M. D. (510 Medico-Dental Building, San Diego).—The results presented in this paper further define the value of radium. It is only in carcinoma limited to the wall of the uterus that surgery claims results equal to those of radiation, but even in cases thus limited the surgical indication is restricted. Where there is advanced cell differentiation of Broders' classification 1 and 2, surgical cures approximate those of radium. In the more numerous Class 3, radium has twice as many cures as surgery and in the extremely malignant Class 4 radium is five to seven times more effective. Another determining factor in the choice of radium is Martzloff's experience, discovering carcinoma in the adnexae in 30 per cent of those cases that were clinically free from induration. These cases are inoperable, although clinically limited in extent. From these observations, the percentage of cases is extremely small where surgery may be chosen instead of radium.

Emphasis should be laid on the fact that operability must be determined at the first decision. An inoperable case does not become operable following the use of radium no matter how complete the apparent result. It is the extension into the broad ligaments and adnexae that contraindicates surgery at any time, and the fact of healing of the cervix does not diminish the danger of cutting into and liberating encapsulated and viable cells in subsequent operation. It is good judgment to use preoperative radium in clearly defined operable cases, but radium does not render a case operable.

The value of x-ray in conjunction with radium is still under discussion. The clinics presenting the best results are nearly equally divided, although their statistics are very similar. Ward and Farrar and Heyman do not use x-ray, while Bowing, Healy and Schmitz depend upon additional deep therapy. Measurements at the Memorial Hospital show that lethal doses of radiation do not reach the pelvis wall from radium applied in the uterus and fornices. The supplementary x-ray is logical. Our custom is to follow radium with deep therapy wherever there is definite broad ligament involvement.

We have made it a rule to follow our carcinoma cases very closely for a long time. Small local recurrences can be nipped with an implanted needle or small doses of radium in contact and extensive recurrence often prevented. Ward and Farrar attribute much of their extraordinary success to this procedure. When a recurrence is once established it is not only futile, but disastrous to repeat the original massive radiation.

Doctors Soiland and Costolow describe a technique that well represents the foremost thought of the day. Their contention that radiation is the treatment of choice in all types of carcinoma of the cervix is logical and is forcefully presented.

*

H. J. Ullmann, M. D. (Cottage Hospital, Santa Barbara).—I was very much interested in Doctors Soiland and Costolow's paper, especially from the standpoint of technique, as we have been using the Radiumhemmet method for several years, but not long enough to make a statistical report. There is no question, however, but that our immediate effects are a great improvement over the older methods. With one or two exceptions we have been using the three application method rather than the two. A total dose of three treatments is 2520 milligram hours in the uterine canal, and 4680 milligram hours in the vagina. The first two treatments are given a week apart and the third treatment three weeks from the second. There is always a marked regression of the visible carcinoma seen at the last treatment. The intrauterine applicator has a filter of 0.5 millimeter of silver plus brass one millimeter plus aluminum one millimeter, and contains thirty-five milligrams radium element. The vaginal applicator is a flat box covered with dental compound and designed so that it may be placed against the cervix. This point has the least thickness of the dental compound, and, therefore, the distance from tissue is also the least. The filtration here consists of 0.5 millimeter of silver plus lead two millimeters plus dental compound one to two millimeters, on the face, and a varying thickness on the sides, depending upon local conditions. This box is a centimeter square and contains sixty-five milligrams of radium element evenly distributed. No x-ray is used. In the event of recurrence in the parametrium or extensive pelvic infiltrations a totally different technique is used. This consists of broken doses of roentgen ray externally and radium internally, with the use of small doses of our lead compound intravenously to increase the sensitivity of the tumor to radiation. So far, this method has given splendid palliative results. I am glad that Doctor Soiland and Doctor Costolow placed emphasis on the present trend of therapy for carcinoma of the cervix, i. e., that radiation in place of operation is the method of choice for this condition in nearly all of the cancer centers of the world.

*

Doctor Costolow (Closing).—We wish to thank the discussers of our paper, and note their general agreement.

We rely chiefly upon the heavy doses of radium in the treatment of carcinoma of the cervix, but have observed some cases in which additional x-ray was undoubtedly of much value in bringing about a five-year arrest. No bad effects have been noticed from the added x-ray therapy because we give it some time after, when the reaction from the radium is decreasing, and in this manner obtain the saturation effect of the radiation. It is difficult at present to determine the exact amount of added benefit of the additional x-ray but, even though it be small, the patient deserves all available aid in this serious condition.

Probably there is not a single medical condition in which there is more general agreement regarding the proper method of treatment than in carcinoma of the cervix. In practically all large hospitals and clinics throughout the world radiation has been rapidly accepted as the best method of treatment of all cases. Only a few European clinics, where a very few men have developed a highly skillful surgical technique, are still operating upon the early cases, and these men usually giving postoperative radiation treatment. When we see our own American surgeons in large clinics, as the Mayo Clinic, who have thoroughly tried radical operation and cautery, give up these operative measures and treat all their cases of carcinoma of the cervix by radiation, it certainly seems that the progress for the future in this disease must depend upon the further development of radiological instead of surgical technique.

STENOSING TENDOVAGINITIS OF DE QUERVAIN*

REPORT OF CASE

By JAMES T. WATKINS, M. D.
AND
HORACE C. PITKIN, M. D.
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ACCORDING to Schneider,[1] whose recent article is the first to describe this condition in the American literature, De Quervain's disease is not so uncommon, as is its diagnosis. Nevertheless the diagnosis offers no difficulties. Briefly summarized, the main features of the disease are as given below.

HISTORICAL

The disease was first described by De Quervain,[2] of Basle, Switzerland, in 1895, who reported five cases.

Alfonse Eschle[3] collected one hundred and ten cases from the literature in 1924, adding nineteen cases of his own. Schneider[1] also added fifteen cases.

SYMPTOMS

Age: Any. *Sex:* Males, 12½ per cent. Females, 87½ per cent. *Occupation:* Approximately 60 per cent maids and housewives. *Onset:* Usually gradual, occasionally traumatic. *Pain:* Localized in region of radial styloid (occasionally neuralgic in hand and forearm; aggravated by motions of wrist, but chiefly by abduction and extension of thumb). *Swelling and tenderness:* Localized to region of radial styloid. *Local heat and redness:* Never present. *Crepitation:* Was complained of in our case, though it could not be palpated by us. Schneider says, "never any crepitation." *Disability:* Often complete of affected wrist.

SIGNS

Swelling and Tenderness.—Localized at point where the tendons of the abductor longus pollicis and the extensor brevis pollicis curve around the distal end of the radius.

Limitation of motion of wrist and thumb in varying degrees.

Roentgenological Findings.—Calcification of the periosteum where affected tendons pass over the radial styloid.

PATHOLOGY

Etiology is unknown. Possibly repeated trauma of monotonous occupations may predispose.

Noninflammatory proliferation of connective tissue in middle layers of tendon sheaths at this point. Dorsal carpal ligament and periosteum may also be thickened. Lumen of tendon sheaths strikingly narrowed.

TREATMENT

Immobilization of thumb by plaster of Paris cast of thumb and wrist. If not well in six to eight weeks:

Operation.—Simple longitudinal incision, without suture, of affected portion of sheaths, followed by early active motion. The various forms of physiotherapy are valueless except following operation.

PROGNOSIS

Without operation, 70 per cent of the cases can be cured.

With operation, 99 per cent of the cases can be cured.

Full return of function after operation, two to three weeks; (industrial cases, four to six weeks).

COMMENT

In the following report the most interesting features to us are:

1. The general surgeon who first handled the case missed the diagnosis, though he treated the patient for over one month.
2. So did the surgeon's roentgenologist.
3. So did both the authors.
4. So did their roentgenologist on two examinations.
5. The pathology found at operation was appreciated, and although not recognized as De Quervain's, appropriate treatment resulted in cure; rather to our surprise.
6. Diagnosis was made by survey of the literature only after patient's final discharge.

Therefore we feel that a clinical entity so easy of diagnosis, so disabling, and yet so amenable to treatment deserves more widespread recognition than apparently obtains at present in this country.

REPORT OF CASE

William M., October 4, 1928.

Chief Complaint.—Pain on motion, and stiffness in left wrist.

Present Illness.—August 29, 1928, crate weighing two hundred pounds fell on left wrist. Continued working, but swelling appeared over lateral surface lower extremity left radius, and wrist became painful. So August 31, stopped working and went to Dr. R., who took x-rays, said "no bones broken" and put bandage on wrist. Patient bathed wrist in hot water at home. Did not work. September 20, Dr. R. splinted left wrist with anterior yucca board and ordered baking, massage, active and passive motion. This treatment continued every day to present.

Present Status.—Swelling still present; has never been discolored; is gradually decreasing in size, though very slowly.

Pain located at swelling, occurs only on active or passive motion; none at night.

Patient occasionally feels crepitus at the site of the swelling when thumb is moved.

Physical Examination.—Inspection: Localized swelling size of half-dollar lateral aspect lower extremity of left radius. No redness nor ecchymosis.

Palpation: Swelling is firm, attached to bone, has smooth sides, is only moderately tender, does not pit on pressure. No local heat. No tenderness elsewhere.

Manipulation: Extremes of any motion of wrist, particularly palmar flexion and radial flexion, cause slight pain at site of swelling; no crepitus felt. Compression of radius and ulna at mid-forearm causes no motion or pain at wrist.

Active motion: Pronation, supination, flexion of fingers, extension of fingers, normal; palmar flexion wrist, 45/60; dorsi-flexion wrist, 40/50; radial flexion wrist, 17/37; ulnar flexion wrist, 25/27; thumb to tips of fifth finger, normal; thumb to base of fifth finger, lacks one-half inch.

Comment.—Localized swelling, moderately painful, immediately following direct trauma done five weeks ago. Never discolored, therefore periosteum unbroken. Now shows a tumefaction attached to bone, firm, only moderately tender, without signs of inflammation or dislocation. Moderate limitation of motion, chiefly in those motions where the acting tendons pass over the swelling.

Impression.—Subperiosteal, ossifying hematoma.

X-ray Report.—October 5, 1928. "Roentgen examination of the left wrist showed well-marked irregu-

* Read before the Section on Industrial Surgery of the San Francisco County Medical Society.

larity of lower end of radius. Apparently old healed fracture of lower end of ulna."

Progress Note on October 15.—After ten days of intensive physical therapy, the patient volunteers that he has seen some improvement, but at so slow a rate that it would be months before he would be cured. He is of the opinion that the mass beneath the abductors of his thumb will have to be removed before he can get relief. We would suspect a tenosynovitis if the pain were not so localized. Operation advised.

Operation, October 17, 1928.—1. Three and one-half inch longitudinal incision in anatomical snuff box of left hand.

The annular ligament was found to be several times thicker than normal, and on its central part presented a number of plates of what appeared to be cartilage. The sheaths of the tendons were split on the posteroexternal aspect where pain had been complained of when the hand was palmar flexed. This appeared to release them from tension.

2. A prominent piece of bone one centimeter by two centimeters was chiseled from the lower end of radius opposite the site of protested pain.

3. The wound was closed with light catgut and over it dermal. Plaster of Paris was not applied, nor was any immobilizing splint.

Progress Note on November 20, 1928.—This lad has done a good deal better than I had any reason to expect he would. The pain is all gone from his wrist; the motion has increased until it is almost normal; there is an area of numbness between the base of thumb and of first finger, apparently due to traction on the radial nerve at operation, and the swelling in the wrist has markedly diminished.

These results have come rather lately and I shall continue physiotherapy until the first of the month, at which time I hope to discharge him cured without disability excepting possibly for this little numbness at the base of the thumb.

November 27, 1928.—Patient discharged today having normal thumb and wrist motions in both hands.

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HEMOCHROMATOSIS*

REPORT OF CASE

By MILO K. TEDSTROM, M. D.
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HEMOCHROMATOSIS, variously known as bronze diabetes, pigmentary cirrhosis, and generalized hemochromatosis, is a chronic disease characterized by:

1. A peculiar discoloration of the skin due to iron-containing pigment, especially hemosiderin in the skin and various viscera.

2. Cirrhosis, especially of the liver and pancreas.

3. Slightly enlarged spleen.

4. In many cases a hyperglycemia, with or without glycosuria. The disease usually terminates fatally, in the end stages being accompanied by cachexia, anemia, acidosis, and possibly diabetic coma.

EARLY STUDIES

Troisier [1] in 1871 first described the disease, but it was not until 1889 that Von Recklinghausen [2] showed that the pigmentary changes were due to the hemosiderin in the skin, and named this symptom complex "hemochromatosis." About one hundred cases, all adults, have been reported in the literature, only four or five of which were females. The majority of the cases were diagnosed postmortem.

The etiology of hemochromatosis is uncertain, but there are many theories. Many of the cases have a history of chronic alcoholism, but it is difficult to see how this could be a factor when we see many cases of alcoholic cirrhosis without the pigmentary changes. Mallory [3] has recently published considerable experimental and some clinical evidence to support chronic copper poisoning as the causative factor. He had several patients who gave a history of long-standing copper exposure. However, with the increased copper distillation of alcoholic beverages it seems that hemochromatosis should be very common now if copper were a factor. Mills is quoted by Coustam [4] as reporting that Koreans use brass vessels for cooking purposes, and there are few pigmentary disturbances among these people.

Hall and Butt [5] repeated Mallory's experiments and confirmed his findings. They believe that "a direct relation exists between the amount of cirrhosis of the liver and the quantity of pigment deposited." Flinn and von Glahn [6] repeated Mallory's experiments on rabbits, guinea-pigs, and rats and concluded that neither copper nor its compounds cause cirrhosis of, nor deposition of pigment in, the liver. They were able to produce pigment depositions in the liver of rabbits by feeding them an exclusive carrot diet.

ORIGIN OF THE PIGMENT

There are numerous theories as to the origin of the pigment. Some of them are: that some unknown agent acts on the blood causing the erythrocytes to give up their iron; that the autolytic function of the liver cells or spleen is impaired; that there is a decreased iron output by the kidneys and intestines; and that there is a primary cirrhosis of the liver with secondary pancreatic changes and skin pigmentation. Recent animal experiments by Rous [7] tend to show that the cirrhosis is the primary lesion. His experiments also tend to show that "while the increased destruction of red blood cells cannot be the primary cause of hemochromatosis, yet these elements are certainly the source of the hemosiderin." Many authorities consider that the pigmentation is primary, and leads to cirrhosis of the liver and pancreas. The case reported seems to have had a primary skin pigmentation change followed by cirrhosis of the liver and spleen. As the iron deposits are increased in the cells normally metabolizing iron, it would seem that the initial lesion is a failure of organs which normally take care of the products of blood destruction to do so. Sprunt [8] and others have advanced this theory. Gaskell and others [9] have found an increase in iron content of blood with defective iron elimination.

SYMPTOMS

The onset of the disease is usually gradual. Quite frequently the patient presents himself with the typical symptoms of diabetes, that is polyuria, polydipsia, and polyphagia. Others have not re-

* From the Department of Internal Medicine, Johnston-Wickett Clinic, Anaheim.

covered their health following an acute infection. It seems strange that so many of the patients have not noticed the discoloration of the skin until their attention is called to it by their physician. The usual symptoms complained of are: general malaise, weakness, loss of weight, and some epigastric discomfort, especially nausea and vomiting, constipation, loss of appetite, and occasional swelling of the abdomen. Examination usually reveals a malnourished individual with dry skin. The discoloration is variously described as grayish brown, gray black, blue black, dirty gray, or brownish gray, and affects the greater part of the body, being less marked around the axillae, areolae, and genitals. The liver is smoothly enlarged; ascites is present; and the spleen is usually palpable. Occasionally purpuric spots or petechiae are seen. Slight jaundice has been noted. The laboratory tests usually reveal glycosuria, hyperglycemia, some albumin and a few casts, and normal erythrocytes and leukocytes with normal differential. The urobilin is not increased in the blood and there is no bile in the urine.

DIAGNOSIS

The condition must be differentiated from Addison's disease, which it suggests due to the pigmentation of the skin. The absence of pigmentation in the mucous membrane of the mouth, normal or elevated blood pressure, and enlarged liver, all serve to differentiate the case from Addison's disease.

Argyria occasionally may be confounded with it, but the history and hepatic cirrhosis will rule it out. The finding of hemosiderin in a section of skin removed by biopsy, and in the urinary sediment, is diagnostic of hemochromatosis. The pathologic examination reveals cirrhosis of the liver, pancreas and lymph nodes, with much iron-containing pigment. This pigment is also observed in the kidneys, adrenals, and entire gastrointestinal tract. The spleen is large, hard, and dark in color. The skin, of course, has iron pigment present, chiefly around the sweat glands.

The results of treatment are very unsatisfactory. The patient should have general measures to improve his health and prevent secondary infections. Diabetes, if present, should be treated. However, Coustam [4] has reported a case with diabetes and acidosis that was refractory to insulin.

REPORT OF CASE

29229, forty-six years of age, male, entered the hospital on December 23, 1928. His chief complaint was swelling of the abdomen. For the past year he had noted gradual loss of weight and strength, and had had some nausea at intervals. About October 23, 1928, he had had general aching, malaise, and fever, which he thought was "flu." He recovered after one week. While lifting acetylene tanks on November 20, 1928, he suddenly had severe mid-epigastric pain, which cleared up after a short while. Since that time he had had intermittent dull pain in the epigastrium, especially during the past two weeks. Two weeks before he entered the hospital he noted enlargement of his abdomen. This enlargement had progressively increased. At the time of his entrance he was having dull epigastric pain (chiefly on the right), orthopnea, dyspnea, tachycardia, and considerable enlargement of the abdomen. On being questioned, the patient said he had noted discoloration of the skin for the past year; his family physician had noted it for three years.

Past History.—Scarlet fever at six years of age. Gonorrhea at eighteen years of age. The patient denied lues. He had been a chronic alcoholic for the greater part of his life. He had worked around brass for the past fifteen or twenty years.

Family History.—Essentially negative.

Physical Examination.—The patient was greatly emaciated, very orthopneic, and dyspneic. There were blackish brown discolored areas of skin with normal areas in their midst. These were chiefly over the chest, axillae, back, inguinal regions, inner sides and front of thighs, and buttocks. The facial appearance was somewhat mask-like, without expression. The blood pressure was: systolic, 130; diastolic, 90. Examination of the heart was negative. Examination of the lungs revealed a few crepitations at the bases posteriorly. The abdomen was enormously distended, with prominent superficial veins. There was shifting dullness in both flanks, and a fluid wave on both sides. After paracentesis the liver edge was felt three fingerbreadths below the costal margin, firm and smooth. The spleen tip was also palpable.

Laboratory Reports.—Urine: Trace of albumin; occasional hyaline casts; sugar, urobilin, and indican were negative; urine sediment showed hemosiderin.

Blood: Hemoglobin, 48 per cent (Newcomer); red blood cells, 2,480,000; white blood cells, 6000. Differential: Polymorphonuclear leukocytes, 82 per cent; lymphocytes, 18 per cent. Nonprotein nitrogen, 17.5 milligrams. Blood sugar, 109 milligrams. Blood Wassermann: negative. Sugar tolerance: normal curve.

Gastric analysis: Free HCl, 24°; total acid, 58°.

Ascitic fluid: Albumin, four plus; specific gravity, 1.010; microscopic, negative.

Fragility test: Hemolysis begins at .40 per cent and is complete at .30 per cent.

Van den Bergh reaction was direct. Serum bilirubin was estimated as 2.3 milligrams for each 100 cubic centimeters.

Section of skin removed by biopsy showed hemosiderin in great quantities, especially around the sweat glands.

Section of liver removed at time of omentopexy showed considerable destruction of liver cells with replacement by scar tissue. Abundant iron-containing pigment was also present.

COMMENT

This patient had considerable ascites which was only slightly benefited by the administration of ammonium chlorid and novasurol. An omentopexy was decided upon and was done under local anesthesia on January 22, 1929 by Dr. Herbert A. Johnston. Since that time the patient has had only one tapping (in five months), whereas previously he had required almost daily paracentesis. The spleen is no longer palpable, and the liver is smaller although still palpable. There is no evidence of ascites at present. The patient has regained his strength and has returned to his work. The relief of his ascites has apparently made him as well, physically, as before the onset of the disease. He has not yet developed hyperglycemia or glycosuria. Although his pigmentation is unchanged, we feel that omentopexy has been of decided benefit to this patient. Since writing the above the patient has been seen, and his abnormal pigmentation is much less, and the liver is smaller.

SUMMARY

A case of hemochromatosis, proved by the findings of hemosiderin in the skin, in the urine sediment, and in the liver section removed at time of operation, is presented.

This patient has a history of both chronic alcoholism and possible chronic brass poisoning, both

of which are theoretical causes of hemochromatosis.

Omentopexy was done on this patient with remarkable improvement in his condition, so much so that he was able to return to his work. The literature does not reveal any previous case of hemochromatosis having an omentopexy for relief of the ascites.

The history suggests very definitely that the pigmentary change was the primary lesion, being followed by cirrhosis of the liver and ascites.

117 N. Claudine.

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FOREIGN BODIES IN THE URETER*

REPORT OF CASES

By WILLIAM E. STEVENS, M. D.
San Francisco

DISCUSSION *by Charles P. Mathé, M. D., San Francisco; W. W. Cross, M. D., Oakland; Robert V. Day, M. D., Los Angeles.*

FOREIGN bodies which have been introduced from outside the body are rarely found in the ureter. No mention of this condition is made in the majority of the recent books on urology. Hugh Cabot [1] cites but one case, that of a male patient who was seen some years ago by the late A. T. Cabot. A long straw had entered the right ureter, having been inserted, doubtlessly, into the urethra. The lower third of the straw projected into the bladder and was removed with a lithotrite.

CASES REPORTED IN LITERATURE

In the majority of the very few cases reported in the literature the foreign bodies consisted of a fragment of catheter which had broken off in the ureter. Young [2] states that this type of accident is extremely rare and that if a catheter does break in the ureter it will probably be expelled. The only instance of a foreign body in the ureter mentioned by him is the case reported by Cabot.

Augustus Riley [3] recently reported a case in which one inch of a spiral filiform tipped catheter which had been used to get by a stricture in the lower third of the right ureter doubled on itself and was broken off. It was eight weeks before Riley was able to remove the fragment and it was then found to be encrusted with a soft stone three-quarters of an inch long and one-quarter of an inch in diameter.

Strominger and Blum [4] report the very interesting case of a man thirty-seven years of age who complained of frequent urination, pain at the beginning of urination and cloudy urine. The bladder capacity was reduced to 120 cc. Temporary improvement followed instillations of protargol solution and treatment at mineral springs but finally fever appeared, the vesical symptoms increased in severity and the patient complained of severe pain in the right kidney region. Examination revealed a stricture in the bulbous portion of the urethra, marked inflammatory lesions of the bladder and an impassable obstruction in the right ureter ten cm. from the uretero-vesical orifice. The bladder contained a calculus the size of a nut. The patient was not seen again for three months. The bladder symptoms were then still more pronounced. Because of the marked reduction in bladder capacity and the fact that the urethra could not be dilated it was decided to perform an open operation. In addition to the vesical calculus seven cm. of a ureteral catheter were found projecting from the right ureter. That portion of the fragment of catheter remaining in the ureter measured twelve cm. in length. At the ureteral orifice the catheter was surrounded by a small calculus. This fragment of catheter had been in the ureter for over one and one-half years. It was permeable and there was no dilatation of the kidney pelvis.

These same authors state that they know of one case in which a fragment of catheter fifteen cm. long was lost in the ureter during catheterization. It was removed four days later through an iliac incision.

Schlagintweit [5] reported a case of foreign body which he believes had remained in the left ureter for from ten to fifteen years. The patient had suffered from pain in the left reno-ureteral region for many years. Examination revealed pyonephrosis of the left kidney. Radiography showed a calculus in the lower third of the ureter from which a thin hook-shaped formation projected like the stem of a pear. After removal of the pyonephrotic kidney the ureter was incised and the calculus together with a hook-shaped piece of wire was extracted. No periurethritis or scar tissue were found at the site of the foreign body and stone but the ureter was hypertrophic and dilated. The author was unable to explain how the wire, bent at a right angle at its lower end, could have entered the ureter.

Galland [6] reported the remarkable case of a man forty-two years of age who inserted the horn stem, eight cm. long and eleven mm. in circumference, of a tobacco pipe into his urethra. After passing into the bladder it had probably been forced by contraction of this organ into the right ureter for a distance of two cm. Its extremity perforated the wall of the ureter and the patient died fourteen days later.

Galland also mentions a case recorded by Bayle in 1686 in which a pin was found imbedded in the wall of the ureter. It was impossible to determine

* From Stanford University Medical School.

* Read before the Urology Section, California Medical Association, at the Fifty-eighth Annual Session, May 6-9, 1929.

whether the pin had entered the ureter from the bowel or through the bladder.

In a case recorded by Peirce a spiral shell was found in the ureter.

Cases of foreign bodies ascending the entire length of the urinary tract from the external urethral meatus to the pelvis of the kidney are rare. In this connection, one recently reported by T. P. Waring,[7] is of interest. A blade of grass passed from the urethra of a man thirty-eight years of age into the bladder and thence through the ureter to the pelvis of the kidney. Waring believes that strong antiperistaltic ureteral waves forced the grass upward to the renal pelvis. I believe that regurgitation should also be considered as a factor in this case. Alexander H. Peacock[8] calls attention to the fact that Lewis and Goldschmidt produced reverse peristalsis by filling and stimulating the bladder. This was accompanied by reflux of fluid from the bladder to the kidney. Foreign bodies which enter the ureter directly from outside the body usually travel downward toward the bladder.

REPORT OF CASES

CASE 1.—A married woman forty years of age complained of pain in the right upper abdominal quadrant radiating to the back. This had begun three months before coming under observation but had increased in severity during the past two days. She also suffered occasionally from nausea and vomiting after meals; loss of weight. The right ovary and appendix had been removed ten years previously. Palpation revealed a slightly enlarged right kidney which descended into the right lower quadrant on deep inspiration. The characteristic pain was reproduced by pressure on this organ. A catheterized specimen of bladder urine contained an occasional group of pus cells but was culturally negative. The kidney function was normal. A number six ureteral catheter encountered some resistance about six cm. from the uretero-vesical orifice. Partial relief from pain followed the first catheterization. Pyelography revealed moderate dilatation of the renal pelvis.

Diagnosis.—Stricture of the right ureter and hydronephrosis. Marked relief followed a few dilatations with bulbed catheters. Following one of the dilatations about three cm. of the catheter, including a number fourteen bulb, broke off in the ureter. A number of attempts to extract this fragment were unsuccessful but following pyelography six weeks later it was passed by the patient. The catheter was permeable and pyelograms now showed but slight dilatation of the kidney pelvis. Notwithstanding the presence of the broken catheter in the ureter for several weeks the pain had been absent for over two months.

* * *

CASE 2.—A man fifty-six years of age complained of pain in the right lumbar region and frequent urination. A catheterized specimen of bladder urine contained about twelve pus and blood cells to the high power field. Radiographs with opaque catheters in the ureters revealed a calculus in the right ureter at the pelvic brim. Calibration of the ureters showed a stricture just below the stone. The ureter was noticeably dilated above this point, although the pelvis of the kidney was of normal size and contour. After several dilatations of the ureter, followed by the injection of olive oil, the calculus escaped into the bladder and was passed with the urine. A Walther flexible metallic bougie was then inserted for the purpose of further dilating the stricture. Unfortunately the filiform became detached and remained in the ureter. Numerous attempts to remove the filiform by means of various recognized procedures were unsuccessful and incision of the ureter following extraperitoneal exposure finally became necessary.

COMMENT

This second case demonstrates the danger attending the use of the above type of dilators. I now use Blasucci or Garceau catheters and consider the former superior to bulbed catheters and bougies or any other type of instrument for ureteral dilatation.

SYMPTOMS AND TREATMENT

The symptoms of other foreign bodies in the ureter are similar to those produced by calculi. The treatment is likewise the same in the great majority of cases. Conservative treatment by cystoscopic methods is first indicated but severe pain, complete obstruction of the ureter, infection, or progressive dilatation of the kidney pelvis demands early operative procedures.

SUMMARY

Foreign bodies with the exception of stones are rarely found in the ureter. They may enter the ureter directly from outside the body or from the kidney, intestines, or bladder. The latter route is far more common. Contraction of the bladder or regurgitation may force or carry a foreign body from the bladder into the ureter. It may then travel upward as high as the pelvis of the kidney as a result of ureteral antiperistalsis and regurgitation.

Catheters, bougies and other instruments should be carefully examined for imperfections before they are inserted into the ureter.

One should hesitate before employing ureteral instruments with detachable parts and the greatest care should be exercised in their manipulation.

Flood Building.

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DISCUSSION

CHARLES P. MATHÉ, M. D. (760 Market Street, San Francisco).—Doctor Stevens has called our attention to the danger of breaking and leaving pieces of a catheter in the ureter in making routine treatments of pathological conditions of the kidney and ureter. I feel that the accident of breaking a catheter in the ureter can be avoided by employing new catheters with no defects. One must not forget that the ureteral catheter is constructed of gum and silk. When the catheter becomes old, slight forcing will cause the gum to crack thereby allowing solutions to come in contact with and to disintegrate the silk threads. Such a catheter will break readily, particularly if it is

caught in a tight ureter or if it forms a loop within an enlarged ureter. A great number of these accidents can be avoided if catheters will be discarded when they are defective or have disintegrated with age.

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W. W. Cross, M. D. (1624 Franklin Street, Oakland).—Ureteral catheters, when passed, may turn back when the pelvis is reached and the point go down the ureter. In this manner a loop is made and upon withdrawing the catheter it will come down doubled upon itself. If the catheter is not strong it may break. In dilating ureteral strictures Doctor Hunner used beeswax and oil. The oil is not required and may destroy some of the adhering quality of the wax, so that it may come away and be left in the ureter. The wax should be melted in a wax spoon and flowed on the catheters and cooled in the air. Moisture on the catheter may prevent proper adhesion, so that the catheter must in every instance be dry.

I have observed foreign bodies in the bladder on several occasions but never had the experience to see them go up the ureter. Recently a Chinaman came to the clinic at the prison with chewing gum in the bladder.

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Robert V. Day, M. D. (1930 Wilshire Boulevard, Los Angeles).—Doctor Stevens is to be congratulated on his report of these cases. Searching the literature takes an immense deal of work. Most of us I think have seen few, if any, foreign bodies except stone in the ureter. One should always discard an imperfect ureteral catheter—especially one which bends at the eye when the point is being introduced into the ureter. I agree also that the Blasucci is the ideal instrument for dilating the ureter.

THE LURE OF MEDICAL HISTORY

A NOTE ON THE MEDICAL BOOKS OF FAMOUS PRINTERS*

PART II

By Chauncey D. Leake, Ph. D.
San Francisco

THE MOST BEAUTIFUL BOOK

CONNOISSEURS have frequently discussed the most beautiful book ever printed without considering the merits of Vesalius' masterpiece, the *Fabrica de corporis humani libri septem,* published by Operinus from Basle in 1543, and republished by him in still more beautiful format in 1555. Perhaps because it is supposed to be a purely technical medical book it is not to be considered beautiful. But it is, in fact, a landmark in fine printing as well as in science. As it was the first modern medical book, the foundation, indeed, of modern medicine, so it established new criteria of excellence in the superb typography and in the judicious composition of its pages. The initial letters are a delight; the illustrations are the superlative woodcuts of the drawings made by Titian's pupil, Jan Van Calcar, and the illustrations and type are so arranged on the wide-margined folio pages as to give the most pleasing sense of balance and proportion.

Andreas Vesalius (1514-1564), the swashbuckling young Belgian, wrote this book when he was only twenty-seven or twenty-eight years old, although he had already been professor of anatomy and surgery at Padua for two years. It was here that he reintroduced actual dissection in anatomy, and so brilliant were his lectures that students from all over flocked to his squalid little amphitheater. The title page of his *Fabrica* shows him lecturing in a splendid big hall, but this was pure propaganda, as he was trying to show by such a title page that he really deserved a dignified lecture hall. As frequently happens in such university efforts, he didn't get it, and soon after deserted his work to become court physician to Charles V and Philip II of Spain.

Fortunately, in deciding to publish a real anatomical text glorifying the human body as not even Flo Ziegfeld has done, Vesalius selected a real artist to make his plates and one of the best printers in Europe to publish the book. Both men were his friends and apparently put their best into the effort. The result is, without question, the finest medical book ever published and certainly one of the most beautiful books of all time.

OTHER FAMOUS SWISS PRINTERS

In Basle also were many other great printers who tempered the practical aspects of their German training with the more delicate and graceful artistry of the Italian and French masters. Of these, Froben, with his staff and serpents, issued many medical items of importance. His great six-volume *Opera Omnia* of Galen, with the annotations of Vesalius connected with some of the chapters, was published in 1542. But his splendid Greek text folio of Hippocrates, with the authoritative readings of Cornarius, and the superb typography, was his real triumph in medical literature. It was printed in 1538, and long remained standard.

Froben derived his skill from the worthy Cratander, his immediate predecessor, who also issued several of the better known works of Galen, among them being the *De usu partium,* the standard physiological treatise of the time, in 1533.

SOME GREAT GERMAN PRINTERS

During the fifteenth and sixteenth centuries, German printing was among the best and most interesting in Europe. It was especially influential in introducing books in the people's tongue. This resulted in widespread use and study of the books, so that most of them have truly been worn out of existence. These early German books, printed in the vernacular, are among the rarest of all books, and are eagerly sought by collectors.

Some of the early ones of this sort were "herbals"—that is, illustrated botanical books, most of them showing plants of medicinal use. The pictures were often very beautiful, and frequently quite accurate. Many of them had been

* This preliminary study was inspired by the notable collection of medical classics exhibited by Dr. LeRoy Crummer at the University of California Medical School in February, 1929. Helpful stimulus has also been received from conversations with Dr. Sanford Larkey. It is hoped that their influence may maintain a lively interest in some of the more artistic aspects of medical publication among California physicians. Part I was printed in the January issue.

taken from early manuscripts, however, and were slavish imitations of imaginary plants, and of little value. With the printing of Latin translations of Dioscorides, however, better care was taken to see that the illustrations conformed to the high value of the text.

One of the best early editions of Dioscorides' *De medicinali materia libri sex,* is the 1543 folio published by Egenolff of Frankfurt. This was the translation of Ruellius, and contained Walther Ryff's notes. Since the cuts used were copied from Fuchs' *Historia stirpium,* and since Ryff made some rather slighting remarks about Fuchs, this book initiated one of the first famous book controversies, involving plagiarism, the rights to illustrations, and the like. Egenolff also published in 1545, in folio, Walter Ryff's intriguing *Frauen Rosengarten,* with the amazing woodcuts. This was the first obstetrical text, and was issued for popular use, as indicated by the use of the vernacular. Another excellent medical text from Egenolff's press was the octavo *Klein Wundartznei* of the French surgeon Lanfranchi, issued in 1569.

Another great Frankfurt printer was S. Feyerabend, who published several of the startling tracts of Paracelsus in German, such as his *Wundartznei,* with the fine woodcuts of J. Amman, in 1565. Feyerabend also employed Amman to illustrate another important obstetrical work, the *Hebammen Buch* of J. Rueff, which appeared in quarto in 1580, and later for professional use in Latin as *De conceptu et generatione homini* in 1587. This work has many remarkable illustrations of obstetrical practice.

With the advent of the terrible Thirty Years War, all intellectual activity in Germany ceased, and fine printing has only developed again in that country within the last century.

THE GIUNTA PRESS

During the sixteenth and early part of the seventeenth centuries, several printers, notably Christian Wechel and the Giuntas, seemed almost to specialize in medical books. The Giunta Press flourished for a time in Florence, and then was transferred to Venice. It has sponsored more of the great classics of antiquity in medicine than almost any other press.

Specially renowned are its nine great folio editions of Galen's *Opera,* extending for more than a century. This series used the best translations of the different books, and the number of times it was reprinted is proof of its success. The typography is in the finest Italian tradition, with finely proportioned composition, so that the wide-margined folio pages are a delight to examine. The title page has become quite famous because of the historiated woodcut border showing imaginary scenes in the life of Galen. The peculiar costumes worn by the physicians in the pictures and the quaint attitudes assumed by them are very charming. In the bottom scene Galen is demonstrating the function of the recurrent laryngeal nerve on a pig, and in another scene

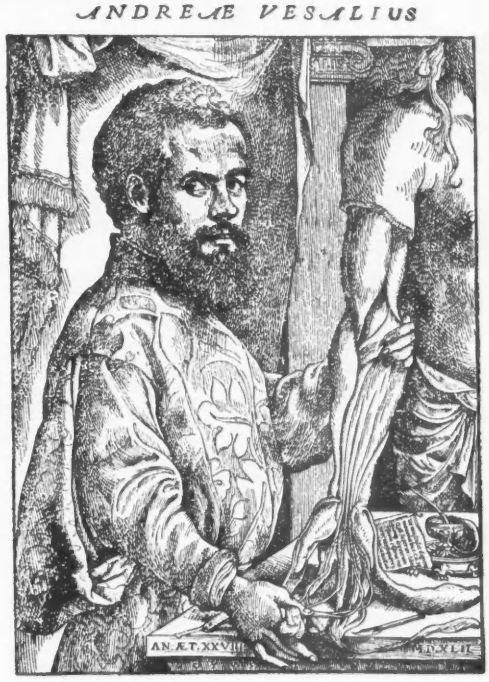

Fig. 7.—Woodcut portrait of Vesalius by Calcar, in the 1543 edition of the *Fabrica,* one of the finest books of all time.

is bewildering his chief professional rival in consultation.

Another fine production of the Giunta press is the folio Avicenna, *Liber canonis medicinae,* published in 1527, which contains all the huge compilations of the ancient medical writers made by the great Arab. A very fine quarto from the Giunta press is the *Opera Omnia* of H. Fracastoro of Verona, issued in 1555. This contains the celebrated poem describing the symptoms and treatment of, and giving the name to, syphilis. It also contains the interesting notions of the author on contagion, of which the Singers have written so charmingly in the first issue of *The Annals of Medical History.*

CELEBRATED DUTCH PRINTERS

Taking as a device a hand from the sky holding a pair of dividers, Christopher Plantin of Antwerp upheld in Holland during the sixteenth century the high standard of printing established in Italy and France. He issued many finely illustrated botanical works, and a few books of medical interest. Among them were J. Grevin's *De venenis libri duo,* a beautiful quarto of 1571, and the *De natura hominis* of Nemesius Episcopus in 1565. This latter little octavo is supposed to contain a passage describing the circulation of the blood.

The most famous Dutch printers belonged to the Elzevir clan. This prolific house made Leyden one of the book centers of the world, even rivaling the great annual Frankfurt book market, to which before the Thirty Years' War all publishers sent their wares. Many collectors make

Elzevirs their special hobby, and the finely bound little volumes are always found carefully preserved. The device of the Elzevirs was a man standing under a tree with the motto, *"Non solus."*

Among the many great medical classics published by the Elzevirs, the most interesting is William Harvey's *Exercitationes de generatione animalium,* published in 1651 in 12mo, and in a rare variant carrying a reduced engraved title page of the first O. Pulleyn London imprint of the same year. This great book was secured by George Ent, Harvey's friend, for publication, and it yet remains to be adequately studied and appreciated. It is the best commentary there is on Aristotelian ideas on embryology. Harvey's own contribution was brought to a standstill, as in the case of his demonstration of the circulation of the blood, only because of inadequate technical help in the form of a microscope.

Another fine Elzevir is J. B. Van Helmont's *Ortus medicinae,* published in quarto in 1652. This contains much of the great mystic's speculation on the function of fermentation, and his stimulating theories on gases. The Elzevirs also issued a very fine little Celsus in 16mo in 1657. The first popular physiological treatise, which successfully introduced Harvey's ideas to the public, and which began experimentation in nerve-muscle physiology, was René Descartes' *Tractatus de homine et de formatione foetus.* This was published by the Elzevirs in a handsomely illustrated quarto in 1677.

Perhaps the best known medical painting is the Rembrandt showing Dr. N. Tulp demonstrating the muscles of the arm of a cadaver to some of his ruff-collared Burgemeister friends. The Elzevirs published his *Observationes medicae,* with fine copperplate engravings in 1672, in octavo.

With the introduction of copperplates, the old charm of the woodcut disappeared from printed books, and the elegant typography of the seventeenth century was developed with special reference to its harmony with the coppers. Some of the finest books of all time were printed by the Dutch printers for the anatomical atlases of Albinus and his contemporaries. These books, mostly by Verbeek, and with the coppers by VandeWar, are still worth most careful study by those wishing to know anatomy as it may best be pictured.

EARLY ENGLISH PRESSES

The publications of the early English presses were mostly in the vernacular, and were so used as to have practically disappeared. The first English printed medical book was *A Passing Gode Lityll Boke Necessarye and Behovefull Agenst the Pestilence* issued in 1485, it is said by William Caxton, but according to Garrison, by William de Machlinia. Caxton published *The Governayle of Helthe* in 1491. Wynkyn de Worde published the first medical picture in England. This was a dissection scene from Bartholomaeus Anglicus' *Encyclopedia* issued in 1495. In 1510 Wynkyn de Worde printed *The Judycyal of Urins.* The first English anatomical text was Thomas

Frawen Rosengarten
Von billfarigen forghchen Zufällen vnd ge
brechen der Mutter vnd Kinder/ So inn vnd vmb
Pflege vnnd Wartung/ Frawen/ Junckfrawen/ vnd Kindern
Gwalthe rum Reiff.

Fig. 8.—Title page of Walter Ryff's Frauen Rosengarten, published by Christian Egenolff in Frankfurt, in 1545.

Vicary's *The Englishman's Treasure,* London, 1548. These books were not well printed, but because of their rarity are extremely valuable.

One of the great early London printers was Thomas Berthelet, whose bindings in black calf are most precious. In 1541 he issued in quarto Sir Thomas Elyot's *The Castel of Helth,* a book which had a deserved popularity. Written by an interested layman, it was bitterly resented by the profession, but undoubtedly had much influence in improving the sanitary conditions and dietary habits of the masses.

One of the interesting English printed books of the early seventeenth century is *The Workes of that Famous Chirurgion Ambrose Parey.* This is a folio issued in 1634, and, it is said, by the printers of the first folio Shakespeare, Thomas Cotes and R. Young of London. It is also said that the first folio Shakespeare, published in 1623, carried a notice of the forthcoming appearance of this English translation of the works of Paré. Paré's first publications were little octavos issued in French for the guidance of the struggling lay-surgeons of the time. So useful and handy were these little volumes that they have practically been worn out of existence. The English of this 1634 edition is in the virile Tudor style, and it is stimulating and entertaining reading although not well printed. Paré's *Little Journeys* is a classic in narrative.

THE REVIVAL OF INTEREST IN GOOD PRINTING

During the latter part of the seventeenth century and the early part of the eighteenth, interest in good printing waned. The times were too

turbulent, perhaps, for good work to be done in this rather artistic and intellectual field. There were many printers, of course, but none of them were outstanding, and very few of their works have any artistic value. William Caslon, an English type founder, stabilized the many different forms of Roman type, and evolved what has since become known as Caslon Old Style type, the standard type for publications of today. It is a plain, sturdy, type font, and very flexible in regard to the ease with which different letters may be combined and yet maintain good proportions. This is one of the most difficult aspects of typography and composition. Individually each letter may be perfectly proportioned in the style in which it is made, and yet when placed next to other letters the effect is not very artistic. Caslon worked out a rather simple set of type fonts which quite satisfactorily meet most demands of good modern printing.

A revival of interest in good artistic printing began about the same time in England and in Italy. In England the famous press of John Baskerville at Birmingham began to apply Caslon's work, and to use artistic discrimination in the setup of pages in order to secure a harmonious and pleasing ensemble. The only medical work issued by this press was William Hunter's royal folio, *Anatomia uteri humani gravidi tabulis illustrata,* published in 1774. The magnificent thirty-four plates accompanying the text have never been surpassed for accuracy and beauty of delineation.

In Italy, Giambattista Bodoni established at Parma his famous press, which began to experiment with entirely new decorative types having no traditional background. These developed gradually into the fluted and blocked letters used now for display purposes. When artistically composed on fine grade paper, with proper borders, they form a most charming effect.

Fig. 9.—Title page of one of the many famous medical books published by the renowned Elzevirs of Holland. Nicolaus Tulp was the subject of Rembrandt's well-known "Anatomy."

The best medical work from this modern press is Zaccarelli's Italian translation with Latin text of Fracastoro's poem on syphilis. This was published in folio in 1829, and has been hailed as one of the best productions of the Bodoni press.

Another very influential modern press was that of the "English Aldus," William Pickering of London. Two of his medical productions are famous. In 1833 he issued Sir Charles Bell's *The Hand,* one of the most beautifully printed and illustrated monographs which has ever been published. Some time later Pickering brought out one of the most lovely little editions of the *Religio Medici* of Sir Thomas Browne—Osler's favorite book.

THE PRESENT OUTLOOK

There is now a great deal of attention paid to the physical characters of the printed book. Modern printers and publishers are trying hard to see that the best and most artistic efforts are put into their publications. This is reflected in medical books.

In the United States there have been many interesting printing efforts. Benjamin Franklin's are celebrated. He issued one or two little medical items, a famous one being Cadwallader's *Essay on the West India Dry Gripes.* During the long sterile period of the eighteenth century, no distinctive printing work was done in this country. Since William Morris' Kelmscott press, however, and the amazing simplicity of Cobden-Sanderson and the Doves press in England, there has developed a fine appreciation in America for good printing. One of the great typographers of the world has done his best work here, and Bruce Rogers' name in connection with a book is assurance that typographically it will be as nearly perfect as possible. Paul Hoeber of New York, who devotes himself exclusively to medical publishing of the finer sort, has employed T. W. Goudy to design the type for his *Annals of Medical History,* the finest printed of all medical periodicals, and for many of his better books.

A deliberate effort to print worthwhile medical books in pleasing and attractive style has been inaugurated by Charles C. Thomas of Springfield, Illinois. Inasmuch as Mr. Thomas is also trying to publish his books at as reasonable a price as possible, his effort deserves more than passing support. Many of the great university presses have published medical books with due regard for the canons of good taste which they have established. The current German medical publishers are doing superb work, but they are making it difficult for the average individual to secure their publications because of the exorbitant prices they are demanding.

In connection with the tercentenary of William Harvey's demonstration of the circulation of the blood in 1928, the Nonesuch Press issued a reprint of the first English translation (1653) of the *De Motu Cordis.* This was edited by Geoffrey

Keynes and published in a handsome binding with a special Dutch typography. As far as I know, this has been the only medical publication of any of the modern private presses. Some of the most famous private presses in the world are in San Francisco, but none of them seem to have issued a book of medical interest. The Stanford University press has just issued, in beautiful format, Doctor Casey Wood's translation, with annotations and reproductions, of the *De Oculis* of Benevenutus Grassus of Jerusalem. This early ophthalmological treatise was first published in 1478 at Ferrara and, while very significant, is extremely rare. Here is a splendid beginning for the elegant printing of medical books on the Pacific Coast.

Interest in the format of a book is one of the pleasant little bypaths of bookish lore. Behind every book there is a story—a story of the author, of the printer, and of the period, and often these little stories are more entertaining and significant than the book itself. At any rate, it is worth while to pay some attention to the artistic qualities of books.

University of California Medical School.

Note: Pictures of the title pages of many of the books mentioned above may be seen in Sir William Osler's *Evolution of Modern Medicine*, New Haven, 1920. In the huge catalogue of his library, compiled by W. W. Francis, Archibald Malloch, and L. L. Mackall (*Bibliotheca Osleriana*), one may find interesting notes on many of the significant finely printed medical books. One may also turn to the many beautiful catalogues issued by Maggs Bros. of London, R. Lier of Florence, and Hertzberger of Amsterdam, for items about the medical books of the famous presses of the world.

CLINICAL NOTES AND CASE REPORTS

TOXIC AMBLYOPIA

REPORT OF CASES

By EARLE L. CREVELING, M. D.
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AMBLYOPIA is derived from two Greek words: "ambys," meaning blunt; "opsis," meaning sight. Toxic amblyopia is a condition that is becoming more common on account of the excessive use of tobacco during youth and by women, and also because of the use of methyl alcohol, or of a poor grade of ethyl alcohol or redistilled denatured alcohol. These latter are perhaps less harmful than cigars, strong pipe tobacco or snuff. The excessive smoking of cigarettes probably saturates the system with harmful poisons of tobacco. The use of poisonous alcohol is far greater than is generally realized, as is attested by gastric, hepatic, nephritic, and ocular lesions due to its ingestion.

Of the substances enumerated, tobacco is the one most often responsible for amblyopia. As the users of tobacco are also frequently consumers of alcohol, it is difficult to separate the etiologic influence of these two drugs. Hence the name intoxication or toxic amblyopia is used to describe a central amblyopia.

This condition is almost always bilateral, although there are a few doubtful cases on record of it being unilateral. The characteristic of the scotomata of toxic amblyopia is a centrocecal imperfection with drooping margins, pericentral in location, and containing one or two spots of greater vividness. The imperfection for the color red is far more than that for white. These findings differentiate it from the other toxic scotomata in the central area of the field.

The pathologic lesion, according to Uhthoff, is an interstitial inflammation of the papillomacular fibers of the optic nerve. These fibers, traced by means of their degeneration, consist of a bundle shaped like a triangle, with their base in the lower and outer part of the nerve, and their apex at the central vessels. Gradually the bundle passes to the center of the nerve, which it reaches in the optic canal, and finally it can be followed into the chiasm and tracts. Nuel and others believe that the so-called central toxic scotoma is not caused primarily by neuritis of the macular bundle, but signifies a disease of the macula lutea, causing degeneration of its cells; and that the optic nerve changes are secondary to destruction of the nerve cells in the macula. Birch-Hirschfeld believes that there is a primary involvement of the nervous elements of the nerve and retina, with an accompanying proliferation of the glia and increase in the connective tissue. The course is a chance one, but the prognosis of the tobacco and alcoholic types is good, provided treatment is started before the disease is too far advanced.

Treatment.—Total abstinence from the use of alcohol and tobacco. Later, strychnin, pushed to its physiological limit. For absorption of inflammatory products, potassium iodid, free sweating, purgation, and the drinking of copious quantities of water are indicated.

REPORT OF CASES

CASE 1.—Alcoholic amblyopia in a young man nineteen years of age. On Christmas eve of last year he went to a party where some form of an alcoholic beverage was served; he had several drinks, and two days later noticed that the vision in his right eye was less acute than in the left, but he made no mention of the fact until his family physician was treating him for grippe two weeks later, when the doctor questioned him about his eyes as the pupils were unusually dilated.

When first seen by me, about five weeks after he had taken the alcohol, both pupils were widely dilated. They reacted to light and not to accommodation. The cornea, lens and refractive media of both eyes were apparently normal. The ophthalmoscopic examination of the right eye showed a distinct pallor of the temporal segment of the nerve head with a blurring of the edges of the disk. The nasal side of the disk was hyperemic. There was no retinal hemorrhage. The perimetric examination revealed a central scotoma, which was oval in shape, and included the blind spot or optic papilla and the fixation point. On this area there was an absolute loss of color vision for green, red, and blue. Form perception was also lost. His vision was reduced to 8/200.

The left eye was less extensively involved; pupil was widely dilated; it reacted to light, but not to accommodation. The ophthalmoscopic examination gave less pronounced findings. The perimetric examination showed a scotoma, with the loss of color vision to green. Vision O. S., 20/200.

Six months after the onset of the disease the examination of the right eye showed a chalky white color on the temporal segment of the optic nerve head, an indication of optic atrophy. Vision was nil. In the

left eye the disease had been arrested and the optic nerve head showed less involvemnt. Vision O. S., 20/70.

* * *

CASE 2.—Nicotin poisoning in a man, age twenty-three. Shoemaker by trade. Negative family history. Denies ever drinking spirituous beverages, but he used tobacco to excess. He stated that he smoked between forty and fifty cigarettes a day; chewed tobacco at the same time; and all he took for his usual breakfast was a quart of strong black coffee. His chief complaint was dimness of vision. Stated that everything looked as though it were misty. He wanted glasses to overcome this discomfort so he could see to work and read. He also stated that his vision was better at night, and that was when he did most of his work. Vision O. D., 20/70; O. S., 20/100. Pupils reacted to light and accommodation. The eyes were otherwise normal except for a pallor of the optic nerve head on the temporal side. This pallor was horizontal and oval in form and extended from the macula lutea to the blind spot.

He discontinued the use of tobacco and coffee. With the use of sodium phosphate, strychnin, and sweating, his condition improved, and on examination eight weeks later his vision was: O. D., 20/30; O. S., 20/40. The pallor of the disks had entirely disappeared and the patient was in a cheerful mood.

COMMENT

Any patient, regardless of age, who complains of dimness of vision should receive an immediate and careful examination to determine its cause and should be treated accordingly. Especially is this necessary for patients whose vocation demands that they be able to differentiate between green and red. Any patient with bilateral diminished visual acuity, for which no other causes are evident, should make one suspicious of some form of toxic amblyopia. Treatment should be started early and continued over a long period of time.

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RUPTURE OF UTERUS*

REPORT OF CASES

By W. J. BLEVINS, M. D.
Woodland

RUPTURE of the uterus is a potential complication of every pregnancy. Its occurrence should always be anticipated, for, after the accident, only prompt action can save the life of mother and child.

Available statistics indicate that rupture of the uterus occurs about once in three thousand pregnancies. Since in the hands of the general practitioner, the true condition is often not recognized, it is our opinion that the accident occurs much more frequently. In fact our series shows five cases of rupture in 3061 pregnancies.

Rupture of the uterus may occur from direct violence as, for example, during a forceps delivery, or it may occur spontaneously. In the latter instance the remote cause usually will be found in some condition or procedure which has left a deficiency of the uterine wall. Such a weakened area may result from fibroids, from a previous cesarean operation, or from a cicatrized area resultant on the manual removal of an adherent placenta. Overstimulation of uterine contracture is a further cause of spontaneous rupture and the unwise use of pituitrin undoubtedly has been responsible for many such accidents.

That the incidence of uterine rupture is certainly less than in the past is easily understood when we consider the vast improvement in the technique of directing labor cases. Cesarean operations are more skillfully done; fibroids are not permitted to go unattended; forceps are used more intelligently; pituitrin is being respected as much for its powers for evil as for the safe assistance that it may occasionally render. Moreover women are becoming educated to the wisdom of hospitalization at the time of accouchement, the result being that postpartum conditions do not invite disaster in future pregnancies as was formerly the case.

KINDS OF RUPTURE DURING DELIVERY

Ruptures at the time of delivery are divided by DeLee into two classes: spontaneous and traumatic. He classifies spontaneous ruptures as those which occur as the result of the natural forces of labor as when there is disproportion between the child and the pelvis, when the pelvis is abnormal, when tumors interfere with delivery, or when either the uterine or abdominal wall is weak.

Traumatic ruptures are those which result from violence, or from unskilled and faulty interference with delivery. This accident may result from the unwise use of ergot or pituitrin; from improper application of forceps; from an attempt at version before the cervix is completely dilated; or by reason of unduly prolonged labor after dilatation is complete. In the latter instance the anterior portion of the cervix may be caught between the head and the pubic bone, or the posterior portion may be caught between the head and the sacral prominence, causing necrosis, resulting in the rupture of the injured portion during delivery.

If the attending physician has in mind the danger of rupture, he will be on the alert for it. The symptoms of impending spontaneous rupture in cases of long delayed labor may be recognized by a contraction ring appearing high above the pubes, frequently as high as the umbilicus, the lower uterine segment gradually thinning out so that the fetal parts may be easily felt through the abdominal wall. There is increasing tenderness in the pelvis, especially with each contraction, and it is impossible at times to make a satisfactory examination without an anesthetic. However, the tissues may fail gradually and rupture may occur without premonitory signs.

Following rupture there is usually a cessation of pain, the patient probably saying that something "broke" and gave relief. Contractions cease in a few minutes. The child, if it escapes, or partly escapes into the abdomen, soon dies. It may be felt plainly against the abdominal wall. Soon symptoms of shock (thready, rapid pulse.

* From the Department of Obstetrics, Woodland Clinic, Woodland.

pallid skin, and weakness) appear. There may be no vaginal bleeding, in fact there is likely to be none unless the cervix is torn.

With traumatic rupture, the picture is different. If it is caused by manual dilatation with the use of forceps, or by version, no untoward symptoms may appear until delivery is completed. Severe hemorrhage may then be the first evidence of trouble, followed by shock. If caused by the use of pituitrin any part of the uterus may rupture and, if the tear is in the body of the uterus, the symptoms will be the same as those following spontaneous rupture.

Pituitrin is a dangerous drug if used without a careful study of the patient. Contraindications to its use are deformity, disproportion between the child and pelvis, a history of an adherent placenta removed with difficulty, or a uterus weakened by many previous labors.

A version should never be attempted until dilatation is complete; the same rule applies to the application of forceps. Where there has been a cesarean operation in the past for other reasons than a deformed pelvis or other structural abnormality, a trial labor may be given, watching carefully for delay in dilatation or faulty position of the child. (This should be done by means of rectal examination. With the first sign of delayed labor, a cesarean section should be considered.

If this accident occurs in practice out of a hospital, treatment depends entirely upon the facilities at hand. There is always great danger to both mother and child. The vagina should be packed as rapidly and as carefully as possible and the patient taken to a hospital at once. We think it is not best to insert the packing tightly into the uterus for the reason that the wound may be kept open, with increased bleeding, as the uterus contracts over the packing.

After the patient has been placed in the hospital, or if the accident occurs there, treatment depends on the site of the rupture. If the laceration is above the vagina, an abdominal operation should be done at once. A hysterectomy is usually best. If the wound is in the body of the uterus it is generally safe to leave the cervix, but if the tear extends into the cervix a complete removal of the organ should be done. If only the cervix is lacerated and the injured tissue can be reached from the vagina, the cervix may be repaired at once, and bleeding will stop as soon as the uterus is contracted.

If the vaginal portion of the uterus is necrosed from pressure in delayed labor, the injured tissue may be severed and sutures sufficient to control the hemorrhage may be put in. If much blood has been lost, the patient should have a transfusion before, during, or after any of these procedures.

REPORT OF CASES

We are reporting five cases showing a different injury in each, with treatment and results:

Case 1.—Mrs. M. H., age thirty-two, first seen July 20, 1924, 12 noon. Two previous pregnancies: First child stillborn by reason of malposition. Second child delivered by cesarean section on account of shoulder presentation. Present pregnancy of about eight months duration. During the night experienced severe pain followed by symptoms of shock. She was brought to the hospital at once.

Examination showed no fetal movement nor fetal heart sounds: fetal parts not outlined. No uterine contractions. Urinalysis showed albumin, but no casts. The blood count showed secondary anemia (hemoglobin 48 per cent), low white count, and relatively high neutrophil count. Temperature normal.

Operation at 2 p m.: Midline incision. The fundus of the uterus was found adherent to the abdominal wall about the umbilicus. The uterus was edematous; there was a large hematoma in the muscular wall. The uterus was ruptured posteriorly at the level of the internal os, and was filled by old blood-clots. The fetus was dead. A subtotal hysterectomy was done.

The reaction from operation was very unsatisfactory for the first twelve hours. Following that period of time, progress was good except for some pleurisy. The patient was dismissed on August 18, 1924, in entirely satisfactory condition.

* * *

Case 2.—Mrs. F. S., age twenty-four, first seen May 20, 1925, 9:30 a. m. Two previous pregnancies: First (six years before entry) in labor several days and finally had cesarean section; dead fetus. Second pregnancy: normal delivery, somewhat prolonged. Present pregnancy apparently normal.

At 3 a. m. on the day of entry, patient arose to void and was seized with violent pain in the abdomen. She was seen by a physician at 5:30 a. m. in extreme pain and shock; pulse, 120; temperature not taken. She arrived at the hospital at 9:30 a. m. Examination showed no signs of labor; the fetal parts were felt plainly through the abdominal wall. There were no fetal heart tones. There was considerable abdominal tenderness and marked hemorrhage. The urinalysis was essentially negative. The blood count showed marked secondary anemia (hemoglobin, 32 per cent) and a high white and neutrophil count.

Operation at 11 a. m. A dead fetus, the placenta and many large old blood-clots were found in the abdominal cavity. The uterus was ruptured along the scar of the former cesarean section. Hysterectomy was done and a transfusion of blood given.

The immediate postoperative reaction was good, but on the sixth postoperative day her temperature was 103, and she had a severe chill. A blood culture showed *B. coli,* for which mercurochrome was given intravenously. The patient was fever free on the seventeenth postoperative day, with normal progress thereafter. She was dismissed on June 11, 1925, in good condition.

* * *

Case 3.—Mrs. M. D., age thirty-eight, first seen December 25, 1927, 7 a. m. Catamenia entirely negative. Eleven previous pregnancies, all normal with normal deliveries. This pregnancy, at term, normal, except that fetus seemed to be more in midline and high in the abdomen. Labor, began six hours before entry into the hospital. After labor had continued for four or five hours with little progress, a hypodermic (presumably pituitrin) was given to increase the pains, which became severe and rapid, but ceased suddenly. A large lump was noted in the right side of the abdomen. The physician in charge then advised hospitalization.

Examination showed the abdomen to be very large and the abdominal muscles very tense. No fetal heart sounds could be heard. Urinalysis showed some albumin and some red blood cells. The blood count showed a high white and neutrophil count.

Operation was done at 8:30 a. m. on the day of entry. Much free fluid was found in the abdomen. A dead fetus and the placenta were found in the abdominal cavity. The uterus was split from the middle

portion out through the broad ligament to the lateral abdominal wall. A total hysterectomy, bilateral oöphorectomy and salpingectomy were done, and a transfusion of 500 cubic centimeters of blood given.

The postoperative reaction and progress were very satisfactory and the patient was discharged January 12, 1928.

* * *

Case 4.—Mrs. F. N., age thirty-two, entered the hospital June 28, 1929. Catamenia normal. Two previous pregnancies, the first normal; the second was terminated by abortion at two months. This pregnancy was normal until May 25, when considerable "water" passed. On June 8 there was a large gush of "water," but no pains. The position of the fetus was normal at that time.

Labor began on the afternoon of June 27, 1928, at 6:30 p. m., with hard pains every three minutes. On the following morning the pains came on at one to two-minute intervals, but were not sustained. At 3 a. m. the patient was given one-half cubic centimeter of pituitrin by hypodermic, but there was no progress. At 4 a. m. a forceps delivery was attempted. It was unsuccessful and the patient was sent to the hospital by ambulance.

A Dutryden's band was discovered as well as the fact that the child's head was very large. Version was attempted, but was unsuccessful. The uterus ruptured and cesarean section was decided upon.

Operation at 8 a. m.: Extraperitoneal approach. A dead fetus was obtained, the head very large (hydrocephalus). The usual closure of the uterus was made and the cervical tears repaired.

The postoperative reaction was good. There was some thrombophlebitis of the left leg and infection of the wound, both of which improved rapidly. The patient was dismissed on July 19, 1928, in good condition. She made an excellent recovery.

* * *

Case 5.—Mrs. E. S., age thirty-eight, para 10, entered the hospital on June 9, 1929. Nine previous pregnancies with natural births. First labor normal in time and natural birth. There were bilateral lacerations of the uterus during the second labor and the patient had a rather severe hemorrhage. All the other labors were easy. In all but the first, the patient was usually in labor two or three hours with contractions, but no pain nor expulsive force until dilatation was completed. There was usually a rapid labor after expulsive contractions started.

In this confinement the patient was admitted to the hospital at 9 a. m., after having driven a heavy car forty miles after labor began. She continued to have regular contractions, but no pain for three hours. The cervix was completely effaced, but head had not engaged.

One-half cubic centimeter of pituitrin was given to start expulsive pains, without effect. Forty-five minutes later a second one-half cubic centimeter of pituitrin was administered. Within ten minutes expulsive pains began and a living child was born in a few minutes, four hours after entry. The old laceration of the left was reopened, extending into the body of the uterus.

As soon as the child was expelled the patient began to bleed freely and was soon in a condition of shock. The cervix was immediately grasped with the hand in the vagina, and pressure was applied over the fundus. Gas was administered and the rupture repaired through vagina with chromic catgut. The uterus was packed lightly and the old laceration on the right was brought together over the packing. Four grains of caffein sodium benzoate were given. A transfusion of 500 cubic centimeters of blood was given as soon as possible. The patient rallied immediately and the packing was removed after twenty-four hours. At no time had the patient an elevation of temperature.

Seventeen days after delivery she had a sudden severe hemorrhage. After the usual procedures this improved and the following day a transfusion of 500 cubic centimeters of citrated blood was given. Two days later the packing was removed from the vagina. This was done under anesthesia as there was a possibility of a sudden, alarming hemorrhage that might require surgical procedure. As she continued very anemic another transfusion was given on July 13, following which her condition continued to be very good. However, on July 22 there was a severe hemorrhage with loss of a great amount of blood causing the collapse of the patient. Transfusion was immediately resorted to, and the next day a complete abdominal hysterectomy and salpingectomy were done. It was found that the laceration had extended far into the left broad ligament with an area of considerable infection. This was carefully sterilized with iodin and sutured carefully. Considerable difficulty was encountered at this point from hemorrhage.

The pathologist's report read: "Uterus, 150 grams. Retained seminecrotic placental tissue. Marked chronic cervicitis with erosion."

Her subsequent progress was very satisfactory, showing gradual but very sure improvement, and she was dismissed from the hospital August 24, 1929, in good condition.

Although this patient had had previous rapid labors, the contractions had not reopened the old lacerations. This accident was probably the result of the use of pituitrin which started contractions of the entire uterus, causing expulsion before the head had time to mold.

SUMMARY

Case 1: Spontaneous, but not in line of scar made by previous cesarean section. This rupture was in the posterior surface of a uterus weakened by previous malpositions.

Case 2: Spontaneous. In the line of the scar of a previous cesarean section.

Case 3: Traumatic. Caused by the weakened walls of a uterus that had been stretched to its utmost eleven times before, with the sudden strong contractions excited by the administration of pituitrin.

Case 4: Traumatic. Caused by the use of pituitrin, which brought on sudden violent contractions of a uterus that had borne nine previous pregnancies. A head not properly molded was forced too rapidly through this previously weakened cervix.

CONCLUSIONS

All patients who have had previous cesarean operations should be warned of the danger of rupture of the uterus in subsequent labors, and if given a trial labor should not be permitted to have severe contractions during the early stage.

Version or the use of forceps should never be attempted until the cervix is completely dilated and the patient is entirely relaxed with an anesthetic.

Pituitrin is a dangerous drug when used to hasten labor, no matter what the indications for its use may be. If administered, it should be given in very small doses (one to three minims) at proper intervals to sustain contractions. Some consider intranasal application to be the safest method.

Woodland Clinic.

PHENOBARBITAL—RASH AND OTHER TOXIC EFFECTS

REPORT OF CASES

By SUREN H. BABINGTON, M. D.
Berkeley

PHENOBARBITAL (luminal) is a valuable sedative and hypnotic. It has come to be a widely used medicine. The average daily dose runs between one-half to one and one-half grains. In state hospitals for the insane, one occasionally sees it being administered in doses as large as ten grains daily to patients suffering from epilepsy. Apparently epileptic patients have a higher resistance, or they gradually develop a certain degree of tolerance to the drug, so that large doses can be given them without ill effects.

Ill Effects.—Sometimes even small doses of phenobarbital produce some ill effects that are worthy of consideration. Some of these are: drowsiness, headache, nausea, and a rash resembling that of measles or scarlet fever. In some cases even fever has been reported. Nevertheless, all of these symptoms usually clear up upon discontinuance of the use of the drug, and without injury to the patient.

Rash.—Jackson [1] reported six cases of skin eruption out of five hundred patients who took luminal.

Later, Bollinger [2] reported two cases out of two hundred patients.

Still later, Menninger [3] reported three cases out of four hundred patients. In going over the literature, he found that, since the introduction of the drug in 1912, there were only forty-one case reports, including his own three, mentioning skin eruption resulting from the use of phenobarbital. The frequency of the rash lies between one and three per cent of all cases reported upon.

In my series of approximately one hundred and fifty patients who have received luminal in the hospital and in private practice, three developed skin rash with other symptoms, thus raising the number above reported to forty-four.

The fourth case, which is reported below, is given because of the smallness of the dose administered, in order to avoid ill effects of any kind.

REPORT OF CASES

CASE 1.—A man, fifty-two years old, received sodium luminal, grain one-fourth b. i. d., for two days for restlessness. On the second day he began complaining of generalized itching. At the end of the day he showed a macular eruption all over the body. The drug was discontinued. After three days the medicine was given again for two days. The itching and macular rash reappeared. Upon discontinuance of the drug, all was well. Several days later the skin began shedding like a very fine dandruff. Some physicians may contend that the rash is due to failure to use an alkali with the luminal. However, in this case the patient received sodium luminal, which is an alkaline preparation.

* * *

CASE 2.—A woman, age twenty-four, was given luminal, grain one-fourth b. i. d., for nervousness. On the fifth day she called up complaining of frontal headache, "a kind of headache she never had before in her life." It felt "hard and heavy in the head." The drug was discontinued: the headache stopped. However, a week later she developed a measles-like rash over the neck, gradually extending to the trunk; none on the extremities or face. The rash persisted for several days with considerable itching, which had to be controlled by internal and external medication. A month later, luminal was administered again on the assumption that perhaps the symptoms had been due to something else. After three days all of the above symptoms returned. The rash and itching then persisted for nearly a month. The patient was not given any more luminal, and she has as yet never had a recurrence of the above described headache nor of the rash since that time. I did not like to make the experiment with her for the third time.

* * *

CASE 3.—A woman, sixty-one years old, was given luminal, grain one-fourth b. i. d., for insomnia and nervousness. On the second day she developed a scarlet-fever-like rash all over the body (including the extremities and face, unlike Case 2), accompanied by a marked itching which required medication for relief. The luminal was discontinued for three days and the itching and rash disappeared, except in the interdigital spaces on the hands, where there was some swelling and redness present, due, apparently, to scratching and rubbing. Three days later the luminal was resumed. In a day, rash and pruritus returned and were as severe as before. Upon discontinuance of the luminal, the rash disappeared and the itching ceased.

* * *

CASE 4.—A woman, age sixty-five, weight one hundred and fifty pounds, after taking one-fourth grain of luminal b. i. d. for two days for insomnia, complained that she "could not raise her arms," and she felt "very light in the feet." She could not keep her eyes open. She had no skin eruption or reaction. The dosage was cut down to one-eighth grain by breaking into two pieces the smallest tablet manufactured (which is one-fourth grain). The by-effects disappeared, and this small dose produced the desired results.

COMMENT

Many theories have been advanced to explain the cause of the rash, such as idiosyncrasy, poisoning, and calcium deficiency. Some contend that the rash is due to failure to use some alkali with luminal. However, our first case received sodium luminal, which is an alkaline preparation.

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Prevention of the Introduction of Diseases From Abroad.—A report which shows the activities of the United States Public Health Service in preventing the introduction of diseases from abroad was recently forwarded to Congress by Surgeon-General H. S. Cumming. This report indicates that no instance of the importation of any quarantinable disease occurred during the past fiscal year. No cases of plague, cholera, yellow fever, or typhus fever arrived at quarantine stations in the United States. There were, however, ten instances during the year of bubonic plague occurring on vessels arriving at ports in foreign countries. The preventive measures applied by officers of the Public Health Service at foreign ports of departure are reflected in the small number of quarantinable diseases on vessels arriving at ports of the United States.—*United States Health Service*, December 24, 1929.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects for discussion invited.

THE LUMP IN THE BREAST

ALSON KILGORE, SAN FRANCISCO.—In our courts the accused is innocent until proved guilty, but in the breast a lump is cancer until proved benign. The surgeon who advises watchful waiting in the presence of a single definite breast lump in a woman over twenty-five will find too often that he has been watching an early cancer become incurable. Every such lump should be explored. In the examination of a breast (without skin retraction or other classical signs of cancer) decision should be limited to the question of whether an actual lump is present or whether the mass felt by the patient is only a "lumpy" area of breast tissue—a decision that, in itself, often requires no mean skill and experience. And the surgeon should never lose sight of the fact that extended or vigorous examination may cause rapid metastasis of an early cancer. One or two gentle touches must furnish all the information needed. Leaving a breast sore from clinical examination is absolutely inexcusable.

It is today settled and no longer debatable that exploration of a breast lump is justifiable, but it is equally undebatable that if cancer is found, the complete operation must be done at the same time. Frozen section diagnosis should always be available. Occasionally only a microscopic section will settle the diagnosis. But the average hurried frozen section is less trustworthy than paraffin or celloidin sections, and the competent surgeon will depend upon a reasonably clear gross diagnosis rather than on frozen section if the two disagree. The really competent breast surgeon must be at least a good amateur pathologist. It is not too much to ask that he be confident of his recognition of certain typical pictures—of normal breast tissue, of cancer, of the encapsulated lump, of the simple and the papillomatous cyst, and of the nonencapsulated cystadenoma.

But our responsibility is not ended when we have learned to deal properly with breast lumps. We cannot treat early cancers unless our patients bring them early. It has been proved possible to educate communities about breast lumps. There is still room for improvement in popular knowledge in California. Physicians must educate their patients to bring breast lumps for examination the moment of discovery. As a matter of fact, we can well go farther than that. Over 90 per cent of breast cancers are discovered accidentally—unintentional contact of the hand on the breast in bathing or dressing. The accidentally discovered lump has often been present and discoverable for months before it is found. Lumps should be sought for by every woman routinely, not discovered accidentally. If we teach our patients to keep track of themselves as a matter of habit, passing a soaped hand flat over the breasts at frequent intervals, we will see many more curable cancers. And the sensible woman, taught that a lump is the one important danger sign, will not develop a morbid phobia so long as she continues to find her breasts free of lumps.

* * *

EDWIN I. BARTLETT, SAN FRANCISCO.—The old adage, "When in doubt do a complete breast operation," still holds today. At one time it meant the removal of a lot of innocent breasts because we depended entirely upon the clinical diagnosis. Today there need never be any doubt and, therefore, no innocent breasts need be sacrificed. This comes about through the perfection of the exploratory operation and the diagnosis at the operating table by the gross appearance of the tumor or by the frozen section. All cases can be positively diagnosed and properly treated while the patient is still under the primary anesthetic.

The old saying, "Amputation of the breast is not enough for cancer, and too much for anything else," still holds today. Simple amputation is seldom indicated, therefore a woman may have practically a guaranty that she will not lose her breast unless cancer is found. She can be further assured that the gland will be restored completely or nearly to its normal shape, that the function will not be seriously interfered with, that she need have no fears regarding serious discomfort or distress with lactation, and that the skin over the breast will show only a fine white line. To accomplish all this the surgeon makes an incision radiating from the nipple, he dissects the tumor very carefully away from the surface of the gland or simply strips the lining of a cyst. If it becomes necessary to remove a portion of a gland, he takes a wedge-shaped piece with the base of the wedge at the periphery of the breast, and the blade of the wedge toward the nipple. He closes the defect by accurately approximating the posterior cut edges of the gland. He thus avoids lactation trouble by leaving behind no secreting breast tissue which does not have free drainage to the nipple, and he leaves no furrows or depressions in the surface of the breast gland.

* * *

M. T. BURROWS, PASADENA.—While most cancers of the breast make themselves known by the development of a lump, there are a few which fail to give this signal. The cancers which are most frequently missed are those arising from the ducts deep in the breast and the more diffuse cancers which have an acute onset. The first of the latter types are easily diagnosed by the appearance of an eczematous rash about the nipple. A suddenly developing acutely swollen, red and tense breast, especially coming on without warn-

ing, should be considered cancerous until proved otherwise.

While the easiest method of treatment of any breast tumor is exploration and removal it must be remembered that the removal of the breast of a young woman, or even cutting into it, means either robbing this woman of one of the charms of her womanhood or doing injury to the ducts which will be a constant source of trouble to her throughout her sexual life.

Where it is possible to make a definite diagnosis of cancer the breast must be removed. Whether one should advise the immediate removal of every tumor of the breast is a question to be solved. While a few breast cancers make themselves known by the appearance of a rash about the nipple, most cancers of the breast begin in a mastitis of shorter or longer duration or other tumors. Since our recent work on the relation of cancer to vitamin deficiency, we have assumed quite a different attitude toward many of these precancerous lesions. The breast of one woman with an eczematous rash just appearing about the nipple healed completely with the removal of several abscessed teeth and the use of a healthful diet. Cancers were found at operation deep in the breast of two other patients. In one the eczema had existed for six months; in the other, two years.

One sees a tumor often in the breasts of young and middle-aged women who may or may not have borne children. Many of these cases have been associated with a cervicitis, abscessed teeth, and secondary anemias. The breasts of these patients which showed no definite signs of malignancy have not been touched. The associated lesions, on the other hand, have been treated at once. The abscessed teeth have been removed, cervicitis treated, and an attempt has been made to clear the anemia. It is surprising how many breast lesions have disappeared under this treatment. Our method is to institute the treatment of these associated lesions at once. If the breast lesion does not recede or disappear within two to four weeks, operation is then advised. Of the twenty-one cases of this type seen during the last one and a half years, seven have been operated upon and six found malignant.

Besides these types of lesion one sees tumors in the breasts of many of the thyroid cases and other cases where there has been a disturbance in the sex organs. What is to be done with many of these cases is a question yet to be solved. While a few of these patients have come to the office with infections in the breast, a heightened leukocyte count and a low afternoon fever, others have shown no such symptoms. The former group have been operated; the latter have been placed on the waiting list and their general health improved as much as possible, especially if they are young girls the removal of whose breast would be a distinct handicap to their future happiness.

Most of the other benign tumors of the breast have been removed because of disfigurement or lack of positive means of diagnosis.

Many authors advise the removal of all lumps from the breast. Many such lumps appear in young girls before marriage. Many of these are connective tissue overgrowths, the immediate removal of which is uncalled for because most of them respond readily to the treating of focal infections, good food, marriage and children. While it is true they may reappear, as old mastitis of nursing may reappear in later years, it is probably better to wait and treat them at this later period.

Cancer is not a local disease. Our recent studies have indicated that it depends not only upon a certain type of local degeneration, but also upon a drop in the general nutrition or health of the patient. When we have appreciated this fact and have looked upon our cancer patients as patients whose general health must be restored first, then many more cures will be the result. Cancer is not a disease to be treated by any one particular method. There is no such method. Each cancer must be removed completely or otherwise destroyed by the simplest method available. Each case is a problem by itself. It is a disease which must be treated by men skilled both in pathology and general clinical methods. Cancer deals with the most fundamental problems of life. It is an overgrowth of cells. It is not a true disease. It is a reaction which may take place in any area suffering degeneration when there is a drop in the general nutrition of the organism. Its treatment demands not only its removal, but the restoration of the patient to his former state of health.

Treatment of Diabetic Coma.—At the Peter Bent Brigham Hospital, nurses and house officers have received the following instructions for the management of diabetic coma:

1. As soon as the patient arrives place him in a warm bed.
2. Give an enema and obtain a blood and urine sample.
3. Give 1000 c.c. of saline subpectorally at once.
4. Give 25 units of insulin at once.
5. Give insulin about every two hours thereafter until the urine becomes sugar-free, judging the dose by the amount of sugar present in catheter urine specimens. When the urine becomes sugar-free continue to examine it at ¾-hour intervals using enough insulin to prevent the return of glycosuria and acidosis.
6. Let the patient have about 4000 c.c. of fluid each 24 hours during the first few days in the form of subpectoral injections, rectal taps or fluids by mouth. The rectal tap should consist of 5 per cent glucose in saline or tap water. Do not use sodium bicarbonate.
7. As soon as the patient becomes cooperative, let him have small amounts of warm fluids to drink, and, by way of food, as much orange juice, ginger ale, or oatmeal gruel as he likes.
8. As soon as the patient's condition warrants it, allow him to eat a low calorie "soft" diet including milk, cream, butter, crackers, eggs, and cereals.
9. Comatose patients whose acidosis does not improve, as measured by the plasma bicarbonate, within eight hours after insulin is first given, should receive 25 gm. of sodium bicarbonate by mouth, rectum or vein during the course of a few hours. This dose should be repeated in twelve hours if acidosis persists.
10. Diabetic patients admitted to the medical wards with any complication of a possible surgical nature (carbuncle, gangrene, lymphangitis) should be seen by the Surgical Resident at once. A diabetic patient can be prepared for operation in a few hours by the proper use of insulin.
11. Hypoglycemic reactions are to be treated with the oral or rectal administration of 10-20 gm. of sugar. Intravenous injections of sugar are rarely needed.—*Journal of the Medical Society of New Jersey.*

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Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS

DOES LOS ANGELES COUNTY HOSPITAL EXTENSION INTO PRIVATE HOSPITALS CONSTITUTE A MENACE TO MEDICAL PRACTICE?

Los Angeles County Hospital Overcrowded: Ten Million Dollar Building Being Erected.—The Los Angeles County General Hospital is going through the strain of somewhat severe overcrowding. For a number of years the annual reports have stressed its need for more beds. In response to the agitation for facilities adequate to care for the indigent sick and injured of Los Angeles County who seek admission to its wards, a new hospital unit is being erected. This new unit for injuries and for acute diseases will cost some $10,000,000! Perhaps $12,000,000 will be nearer the total cost of this new unit. Part of this immense sum of money has come out of an initial $5,000,000 bond issue. The remainder is being taken from the annual tax levy funds of the county, because the taxpayers have acquired a partial prejudice toward bond issues, and general taxation brings in the money with less general strain on the body politic. This new unit probably will not be ready for occupancy for another year or so.

The new structure is a massive building that is unique in many ways and quite different from any hospital which has up to this time been constructed, anywhere in the entire world. CALIFORNIA AND WESTERN MEDICINE in proper time will present to its readers a description of this new building, with comments on its arrangements and facilities, and on its relationships to the community and to the medical profession.

* * *

Why These Criticisms by the Council of the California Medical Association Are Made.—At this time, comment will be made on the announcements which recently have been put forth by the hospital authorities, or means to meet its present overcrowded condition. Criticism is not here expressed on the effort of the hospital authorities in striving to provide care for the indigent sick and injured, since that is their obligation as officials; but rather because provision has not been made before now to meet this need which for a long time has been so evident, through the erection, say of a battery of simple one-story, easily constructed, practically fireproof temporary structures, by means of which at very moderate expense the rich county of Los Angeles could easily have provided one to two hundred additional beds.

Such temporary structures could have been built either on the present hospital site acreage or at the county farm. If at the latter place, then the beds of these emergency structures could have been filled by some of the less ill or chronic inmates of the county hospital, and placed under the care of salaried residents and of interns at the infirmary division of the county farm. Such buildings later on could have been utilized for other purposes.

The opinions here expressed, probably would not have been made were it not for the fact that the plan which has been devised to meet the Los Angeles County Hospital's needs, presumably by its medical director, are of such nature as to be a possible menace to the future welfare of the medical profession and the standards to which it is committed. Since the California Medical Association is much interested in the maintenance of such standards, it cannot be expected to stand by without pointing out what seem to be serious mistakes in procedure.

* * *

The Plan as Outlined in Bulletin of January 11, 1930.—In the opinion of the members of the Council of the California Medical Association, this new Los Angeles County Hospital plan, even though intended only as an emergency measure, is fraught with danger to the maintenance of the best standards in public health and in organized medicine, and since it could have been avoided, to that extent at least, would seem to have been unnecessary.

The procedure to be followed in this innovation is outlined in Los Angeles County Hospital Bulletin No. 1072 of date of January 11, 1930. This bulletin is addressed "To Coöperating Pri-

vate Hospitals in Los Angeles County Accepting County Hospital Patients and also to their Medical Staffs" and contains some twelve items of information and instructions, covering three pages. Among other things, it is stated therein that the Los Angeles County Hospital itself charges inpatients, who are not indigent, that is, who are not in the pauper classification of the California Code, the sum of $3.50 per day, and that the outpatients, namely, the ambulatory or dispensary patients, are charged 50 cents per patient visit.

* * *

An Example of Hypersensitivity.—Item 11 of the bulletin restates these charges, and at the same time practically informs members of private hospital staffs who may be called upon to care for such county hospital patients, to exercise caution and not to mention the words "indigent," "county charge," or "pauper." Perhaps it will be just as well to quote this item exactly as it reads:

> "11. While, as stated in the attached mimeographed report, all county hospital patients are classed as indigents, even though a few of them pay the county as much as $3.50 per day for in-patient care and fifty cents per out-patient visit, the greatest care is taken that no hospital employee or attaché ever refers to them and in their presence using such words as "indigent," "pauper," "county charge," etc., as many times our patients are extremely sensitive on this point."

The above delicacy of feeling for these indigent patients is of interest when one remembers that the Los Angeles General Hospital, which according to state law can only care for indigent patients, has a varying capacity of 1564 to 1659 beds, and that some 29,410 inpatients were admitted thereto in the fiscal year ending June 30, 1929; that some 223,475 outpatient or dispensary visits were recorded for the same time period; that the professional services rendered by some 150 to 200 members of the Los Angeles County Medical Association, when estimated on the extremely nominal basis of $1 per hour for time spent in the institution (little more than a day laborer's wage), and of $10 for the major operations performed by these physicians and surgeons, approximates the huge sum of something like $500,000 yearly, which these physicians and surgeons gratuitously give to these patients and the county with little or no recognition from the general public of Los Angeles for this superlatively generous donation on the part of the medical profession; that in addition to the above, the private hospitals and the staffs of such institutions are now called upon to make further and additional donations to the county; and last but not least, that while the members of the medical profession are expected to do their stupendous work in this and similar institutions, almost unhonored and unsung, they at the same time must not divulge to the indigent or pauper patients that they as physicians and surgeons are donating their services to these county charges, and above all else not make mention of the words "indigent," "pauper" or "county charge" in the hearing of such patients.

The writer has been on the staff of this institution and a member of its executive medical board for almost twenty-five consecutive years. In all that time he can remember no single time when complaint was made of attending staff members speaking of patients in their presence, as paupers or indigents. It would seem logical to assume that a group of physicians and surgeons who are willing to donate the great amount of professional services already indicated, would also observe the proprieties, and be sensitive to the unfortunate condition of the indigent patients, and not attempt, through unnecessary or cold remarks to humiliate such county charges. And as a matter of fact they have not done so in the past nor are such physicians and surgeons apt to do so in the present or future.

It certainly seems that this cold-blooded acceptance by a rich county and people, of massive and generous professional service of the character just mentioned, when coupled with what might be called this official supersensitivity on behalf of these indigent fellow citizens, is just a wee bit incongruous.

And especially so, since the last annual report of the institution itself states, "what constitutes a pauper or poor indigent person entitled to county aid." The same annual reports, however, have not been brought out in printed form nor are the vast monetary equivalents of the services rendered by the members of the attending staff of the institution, indicated therein in forms of nominal or real monetary values. Some day physicians and surgeons will rebel against such callous treatment and nonappreciation of gratuitous professional services, and insist that their donations be listed in dollar and cents evaluations, as are those of lay citizens.

It is of interest to note, also, that when the county of Los Angeles sues relatives of persons who have been inpatients, in order to collect the $3.50 per day which it charges and attempts to collect when possible from any whom it believes are not indigent, that it does so on the legal ground that such inpatients were not entitled to free care, because of evidence that such patients were in fact, not "paupers." In other words, the county and hospital can cold-bloodedly use the words "indigent, county charges and paupers" to serve its material interests, but the doctors giving the gratuitous service to the rich county and to the indigent sick and injured are cautioned that they must not do so, even though there is no record of their having done so during many years of service.

* * *

Industrial Accident Fee Table Is Dragged In to Hold Down Possible, "If Any," Fees.—In a pink sheet enclosure to Bulletin 1072, to which is also attached a blue "Fee Schedule—Approved by the Industrial Accident Commission," and a

copy of the Los Angeles County Hospital "Report for the Fiscal Year Ending June 30, 1929," it is stated that for the care of county hospital indigent patients in private hospitals, it is

"understood that the (private) hospital charges for such patients will not exceed $4.50 per day for general ward care and nursing service and that if payment of physicians' services becomes necessary that their charges will be at rates similar to those established by the fee schedule for physicians and surgeons caring for patients under the Workmen's Compensation Insurance and Safety Act approved by the Industrial Accident Commission. (Form No. 97.)"

2. "Please submit to me on the 1st, 10th and 20th of each month, duplicate bills for the hospital care of, and also duplicate bills, if any, for all physicians' services to this patient; each such bill to include the dates and amounts of all former unpaid bills and to state briefly but accurately the present diagnosis of the patient at the time the bill is rendered and also the probable length of time the patient will need to remain in the hospital thereafter."

* * *

Allowance for Private Hospitals Below County Hospital Per Capita Cost!—One other quotation, and this, from the annual report:

"During the present year its per capita cost per day for in-patients was $5.272 and per out-patient visit, $1.235."

In other words, the rich county of Los Angeles, with no overhead charges such as taxes, and with gratuitous services from about two hundred physicians and surgeons who at the ridiculously low estimate previously mentioned, give services of a monetary value of $500,000 yearly, finds its own per capita cost per day for a bed or inpatient to be five dollars and twenty-seven cents ($5.27), but asks private hospitals to accept such patients at four dollars and a half ($4.50) per day and seemingly sees no inconsistency in such action. At the same time, it instructs members of the attending staffs of private hospitals: one, to make out their bills for services, in case such staff members do not wish also to donate their services (the language used almost implying that they should so donate), according to the fee schedule listed in the industrial accident fee table,—a fee table which the California Medical Association, at the time of its adoption, never intended should be applied to other than industrial accident cases; and two, not to mention the dreadful words "indigent" or "county charge" in the presence of such county hospital patients.

* * *

California Medical Association Council Urges Consideration of This Problem.—The Council of the California Medical Association at its regular meeting on January 18 reviewed the peculiar situation which has arisen in the Los Angeles County Hospital and of which some of the issues are as above outlined. The Council believes that the facts and principles herein mentioned are worthy of careful thought by members of the California Medical Association, and has instructed that the foregoing presentation be printed in the official journal of the Association. Should occasion warrant, the Council later may make further comments relative to these matters.

DIFFICULTIES MET WITH IN TRYING TO EDUCATE CITIZENS CONCERNING QUACKERY

Editor American Medical Association Journal Visits California.—Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*, recently visited California, making a goodly number of addresses before different medical, social service and civic organizations. His reception in Southern California was not without reverberations, and to members of the medical profession should be of some interest as showing certain thought trends in modern day newspapers and among some lay citizens.

One of the Los Angeles newspapers, the *Times*, on one day gave a two-column interview in which were presented some of Doctor Fishbein's viewpoints on public health and medical matters, and on some phenomena which can be observed in certain cultist healing art groups. Subsequently it printed other articles which will be referred to in these comments.

* * *

No Official Spokesman in Medicine.—Doctor Fishbein in all his lectures and interviews was speaking for himself, and not for the American Medical Association or for the California Medical Association. Dr. Fishbein was careful to bring out this point, because it is well known that our county, state and national medical associations do not provide in their organizations for official mouthpieces or publication committees.

Or to put it otherwise, every physician who practices non-sectarian medicine has not only the right to give expression to his own individual viewpoints concerning disease—as he interprets disease through scientific facts well established—but has also equal right to express his personal opinions on matters of medical organization, procedure and policy. It is true that men often speak presumably with some authority and with a great deal of support from the profession, but that is not because of the speakers themselves or of any official positions which they hold, but rather because of the soundness of the facts and doctrines which they expound. In such sense, perhaps, the viewpoints of Dr. Fishbein may carry more than ordinary weight.

* * *

Doctor Fishbein's Pasadena Experience.—Subsequent to several Los Angeles addresses, Doctor Fishbein went to Pasadena, where he delivered a talk on "Healing Fads and Quackery" as one of the speakers in a regular lecture course at the Pasadena Community Play House. At this lecture Doctor Fishbein must have thought he was on a strenuous political campaign, because his audience contained a goodly number of individuals who took considerable pleasure in heckling him. So much was this the case that Doctor Fishbein felt called upon to tell his audience that he was there to discuss his subject from the standpoint of his own knowledge of the sub-

ject and of his own conclusions, and that he intended to do so; and further, that if his viewpoints were obnoxious to any of his hearers, such persons were invited to leave the hall. In other words, if his hearers desired to hear his opinions they were welcome to stay and then form their own conclusions thereon. Otherwise their room was preferable to their presence.

* * *

A Newspaper Editorial on "Medical Intolerance."—What was presumably a follow-up of this Pasadena lecture is to be found in an editorial captioned "Medical Intolerance," which appeared a couple of days later in the Los Angeles *Times*. The style marks of the said editorial would tempt one to be almost suspicious that it had been kindly placed in the hands of the editor of that newspaper by one or more sympathizers with the Pasadena hecklers.

As might be expected from its caption, there was a general effort in this particular editorial to play up broad-mindedness and similar virtues, going on from that to emphasize that the editor of the *Journal of the American Medical Association* should be above "bigotry, narrow-mindedness and bygone prejudice." The editorial even went so far as to state that it was.

"to be regretted that Dr. Morris Fishbein, editor of the *Journal of the American Medical Association* should attempt to hog-tie the medical profession in the straitjacket of intolerant conformity to dogmatic theories from which the helpers and healers of humanity at large have of late been so successful in freeing themselves."

The editorial called upon the American Medical Association to "clear itself of the charges of arrogant intolerance," and stated further, that "his slur on Los Angeles as a paradise for medical quacks is a boomerang that hits hardest the very profession Doctor Fishbein has elected himself to defend." There was also a very gentle but nevertheless pronounced defense of the "simple form of healing through faith, employed by Christ himself."

A particularly naive paragraph in the editorial in which the writer or writers showed a pathetic lack of knowledge of the educational and professional training requirements which should be demanded of every practitioner of the healing art, no matter of what supposed school, is to be found in the following:

"If there are fifty cults in this community formed to fight disease, outside the orthodox medical pale, as Doctor Fishbein alleges, it is but another sign of the immensity of this field of research and how much territory remains to be covered. Should some explorer discover that many ailments, now allocated to the pharmacopeia and the operating table, could be as effectively cured by attention to diet and hygiene, he would decidedly deserve well of his fellow beings. Medical diagnosis, under the canons of the regular school, is not such an exact science as to call for sneering reference to the substitution of the violet rays of the sun for the old-time allopathic drug-doping in the treatment of tuberculosis."

A later inconsistency is presented in the last sentence of the editorial. It is well known that without the publicity which through the newspapers is given to cultist and faddist medicine and to quackery, that these excrescences on healing art practice would die a natural death through inanition—or to use the late Mr. Barnum's vernacular, through "lack of suckers." The advertising managers of newspapers are usually well aware of this important fact and govern themselves accordingly.

Therefore it is interesting to note that the last sentence of the *Times* editor emphasized his belief that the good opinion which lay citizens supposedly have of cultist groups, should be an adequate and complete defense for the existence of such cults! The editorial closes as follows:

"No one denies that there are many charlatans and quacks in Los Angeles, as in every other large city, who exploit the sufferings and sickness of humanity for their own personal profit. It is the duty of every good citizen to expose such practices when they come under his notice. In doing so Doctor Fishbein would have been properly within his province. But this is an entirely different proceeding from virulently attacking organizations and systems recognized as beneficial and by large numbers of our best credited and most influential people."

Because the line of thought expressed by the *Times* editor reveals the peculiar psychologic approach which a considerable number of the laity hold on matters having to do with the public health and the healing art, it seems worth the while to call attention to this particular and recent California happening.

* * *

Viewpoint of Another Lay Editor—Chester Rowell of California.—Fortunately, all editors do not hold such views, as witness the very sane and excellent discussion of this same *Times* editorial on "Medical Intolerance," as printed in the San Francisco *Chronicle*, and which came into our hands after the above paragraphs were written. In order that the readers of CALIFORNIA AND WESTERN MEDICINE may have the opportunity of reading an able defense by a Californian who is a layman, the "Chester Rowell's Comment" which appeared in the *Chronicle* will be found in this issue, in the "As Others See Us" column of the Miscellany Department. Our readers are advised to read it. Also the illuminating article in the Miscellany Department, which appears under the title "Descartes Was Right," and which is from the pen of Dr. Harry M. Hall, secretary-editor of the West Virginia Medical Association.

Among the special articles of the current issue of this journal is also printed an article by Dr. A. B. Cooke of Los Angeles on the "Cost of Medical Care and Hospitalization." Bearing on the same general subject, is a letter from Dr. J. M. Neil of Oakland, which will be found in the Correspondence column in the Miscellany department of this issue. These articles are all worthy of perusal and thought.

THE "COST OF MEDICAL CARE"—AS DISCUSSED IN SOME RECENT LAY JOURNALS

The Unfortunate Slogan, "The Cost of Medical Care," and Its New Adjective Prefix, "High." Whether or not the publicity which in considerable part has been brought into existence by the establishment of the national Committee on the Cost of Medical Care—a publicity of which, during the last year it might be said, that it had almost transformed itself into a type of propaganda—as yet has reached its peak, is at this time somewhat difficult to say. From recent lay press contributions, it would seem that it had not, for all signs indicate that a vast deal of printed material will come off the press in the form of books, and as articles in periodicals and newspapers, before the medical profession hears the last of this most unfortunate slogan—"The Cost of Medical Care"—a slogan which in popular usage, through the addition of an adjective, now is more often referred to as "The *High* Cost of Medical Care."

Medical men and women who hold to a contrary viewpoint on these matters are referred to recent issues of magazines such as the *Survey-Graphic*, *Collier's*, the *Literary Digest*, and others, in which have appeared a large number of articles dealing with the subject, "The Cost of Medical Care"; a subject which is really of great importance to both the medical profession and the laity, because of recent changes in modes and standards of American living, and which it may be taken for granted, will not down without serious attempts at its solution.

* * *

A Symposium on the "Cost of Health," in the Survey-Graphic.—The *Survey-Graphic* of January 1930, Vol. 16, No. 4, is practically a special edition on this subject. The editor of that magazine, however, kindly changed the caption of his symposium from "The Cost of Medical Care" to that of "The Cost of Health," although a cover subhead in red was entitled "Adequate Medical Care for Every Man." The captions almost tell the story. This January number of the *Survey-Graphic* contains some sixteen articles on different phases of the supposedly same subject—"The Cost of Health," and make interesting reading.

* * *

Three Californians Honored as Contributors to This Symposium.—From the standpoint of local pride California should feel flattered, because with forty-eight states in the Union and only sixteen contributors to this national magazine, three members of the California Medical Association were enlisted to write articles. Whom to thank for this special selectivity is still a mystery. Nor in one sense is that knowledge necessary, inasmuch as each of the three Californians gave an excellent exposition of his particular topic.

First, Dr. Lovell Langstroth of San Francisco presented an article entitled "Patients Cry for It," in which topics such as food, exercise, sunshine and other health factors were commented upon, in their relation to the cost of medical care. Second, Dr. Philip King Brown of San Francisco discussed "Industry's Answer" and showed "How a Railroad Safeguards Its Employees in Health and Sickness," as based on experiences of the medical department of the Southern Pacific Railroad. Third, Ray Lyman Wilbur took up "The Task of the Committee on the Cost of Medical Care," of which committee he is chairman, and the investigations and preliminary reports of which committee have seemingly excited the curiosity and interest of more lay than medical publications.

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Some Viewpoints of Dr. Ray Lyman Wilbur.—Our esteemed colleague, Doctor Wilbur, President of Stanford University, on leave, and also Secretary of the Interior of the United States, in his article makes a number of statements which should lead many members of the medical profession, especially those who would scoff at all this, to please—"Stop, Look, and Listen."

For instance, Doctor Wilbur puts himself on record as follows:

> "Yet the members of the medical profession are tradition-ridden and uneconomic in their thinking. They have grown up under the historical system of the charitable care of the indigent sick." . . . "With the rapid changes going on in every phase of American life, the medical profession is constantly confronted with the fact that it is losing step, working at a disadvantage, and that unless order comes out of the present chaos in some way or in another, abnormal solutions may be developed in some of the forty-eight states which will be of great detriment to the interests of both patients and doctors."

It is not possible to go into detail concerning the sixteen articles, other than to state that they present in somewhat compact form a mass of expression in current thought on these important topics, in which every practicing physician and surgeon might well be so interested that he would wish to obtain a copy for his own perusal.*

* * *

Mr. Julius Rosenwald of Sears, Roebuck Helps Spread the News.—By an interesting coincidence, while the thoughts here presented were being transcribed by the writer, and after he had himself purchased extra copies to send to his fellow councilors of the California Medical Association, there came to him a letter from one of the representatives of the *Survey-Graphic*, which itself is most illuminating, as showing how so prominent an individual as Mr. Julius Rosenwald, head of the Sears-Roebuck Company, looks upon this January issue of the *Survey-Graphic*.

Mr. Julius Rosenwald of Chicago, founder of the Rosenwald Foundation, has been very much

*For the convenience of readers, who cannot obtain a copy of this issue through their local news dealer, it may be stated that the address of the "Survey-Graphic" is 112 East Nineteenth Street, New York. Single copies, thirty cents.

interested in a number of these matters, and certain of his viewpoints on some of the functions of the medical profession might be stated to be almost as radical as those held by Mr. Henry Ford, of which comment was made in this column in the July 1929 issue of this journal, page 59. Mr. Rosenwald evidently looked upon the recent January issue of the *Survey-Graphic* as an important contribution, for in the letter which came to the writer, it was stated:

"Through the generosity of Mr. Julius Rosenwald the current issue of ***Survey-Graphic*** is being sent to you and to a number of persons who, we believe, are interested in the cost of medical care. This subject is important to those millions of people who receive medical service, and to the hundreds of thousands who are professionally engaged in rendering it."

"In this number we have tried to assemble the viewpoints of both consumers and producers; the man or woman of moderate means, the physician, the hospital manager, the nurse, the public health administrator and social worker. We have not attempted to present solutions, but facts, impressions, and ideas, which may stimulate thought and constructive discussion.

"Later issues will continue to develop this and related themes." . . .

* * *

The Lesson in All This.—A lesson can well be taken to heart by members of the medical profession who look askance at a discussion of these medico- economic and sociologic problems—from the fact that Mr. Rosenwald, a layman, saw fit to purchase a large number of this particular issue of the *Survey-Graphic*, and to distribute the same to members of the medical profession and to the laity. If his action means anything, it would indicate that these subjects are being seriously considered by large groups of influential and wealthy laymen. In our country, where "money talks," and where successful men in business so often feel themselves competent to sit in decisive judgment on most matters in which they are interested, that means that certain of such lay fellow citizens in the not remote future, are more than apt to outline in considerable detail and finality just how they think the so-called great white collar brigade of fellow citizens should be medically cared for. And in such analyses, unless humans of today are different than in the past—which they are not—the medical profession may find to its sorrow, that through its own lack of active interest (as our prominent California colleague of the United States Department of the Interior, Doctor Wilbur, has well said), the end results "will be of great detriment to the interests of both patients and doctors."

Wherefore, it seemingly behooves all medical men and women, who would safeguard the interests of medical science and practice, in order that in the future the profession may measure up to its greatest possibilities, and in order that succeeding generations of physicians may be surrounded by conditions favorable to the development of the highest type of medical science and practice, that these important medical and economic problems be thoroughly studied. In this matter-of-fact age, escape from unpleasant situations does not come through application of the ostrich strategy of burying the head in sand, but through accurate and scientific investigations and search for fundamental facts, the possession of which would make possible logical plans for future lines of action.

There is no reason for fear, but on the other hand, there are a large number of reasons why members of the medical profession should have as much accurate information on these matters as do laymen. With such information and facts, combined with clear thinking, and with that spirit of loyalty to the medical profession which has always been so characteristic of its disciples, the solution of most of these problems should be possible. Let us see to it that the solutions shall come in good part from within, and not entirely from without.

A Question of Ethics.—One of the especially interesting features of this number will be found in the letter of the Committee on Ethics and Discipline of the Massachusetts Medical Society respecting the association of a physician with an organization very much like the Life Extension Institute.

The committee makes clear the fact that the company advertises for business and quotes the statement of the physician in charge with respect to his interpretation of his functions.

The business of the company apparently is to examine persons and, based on this examination, give such advice as may be indicated for the guidance of the patient in dealing with abnormalities detected or methods of living which are not conducive to health.

The assumption of the medical director that this examination and advice do not constitute the practice of medicine is, we believe, at variance with the broad conception of the functions of the doctor. The idea that the practice of medicine is restricted to the treatment of a demonstrable disease is narrow and even absurd because it is generally believed that preventive medicine has accomplished even more for humanity than the wonderful resources of therapeutics, and the examination of patients for the purpose of correcting defects present or impending must be construed as practicing medicine because only educated physicians are equipped to do this work.

The question of whether the law relating to the practice of medicine controls this type of work may wait for solution by the courts, but the ethics of advertising is of major importance and should engage the thoughtful consideration of those in positions to influence the behavior of the fellows of the society. Intelligent laymen are watching the habits of doctors with interest and many in the profession are looking for clearer definitions of what is permissible in reports of interviews or published statements in the lay press or the use of one's name in connection with business organizations. The attitude of the committee seems to furnish quite definite conclusions in this particular instance. If still broader conclusions and definitions are forthcoming they will be welcomed by those who wish to adopt approved customs. Until some definite standards relating to publicity by physicians are outlined confusion will exist in the minds of some well-intentioned persons.

The committee has clearly defined opinions which are in accord with the best thought in the profession and has full power to deal with the situation. The suggestion that the members of the society give careful consideration to the whole problem will stimulate discussion and tend to crystallize opinion. We sincerely hope that the request of the committee will bring about the object desired.—Editorial, ***New England Journal of Medicine.***

MEDICINE TODAY

Current comment on medical progress, discussion of selected topics from recent books or periodic literature, by contributing members. Every member of the California Medical Association is invited to submit discussion suitable for publication in this department. No discussion should be over five hundred words in length.

Pediatrics

Parenteral Infections and Infantile Diarrhea. The relationship between parenteral infections and infantile diarrhea has been emphasized so frequently within the last few years that there exists a somewhat distorted view of its importance. As a result of unusual publicity, the belief that diarrhea and middle-ear infections are closely related has become firmly established. However, there have always been a number of pediatricians who are skeptical of the importance of this relationship and who are fearful lest innumerable unnecessary mastoid operations become a routine therapeutic procedure.

The presence of pus in the middle ear of children who have died of diarrhea is by no means a recent discovery, and there seems no need to manufacture a syndrome and rename it after a man who has simply popularized a previously known fact. Marriott, himself, states that the presence of pus in the mastoid antrum in these cases was first noted by du Verney in 1584. As this is often the only abnormal change found at autopsy, the pathologists are wont to place the blame for the entire illness on this finding. This view was strongly opposed by Czerny, the celebrated German pediatrician, and in an address delivered at Strassburg nearly twenty years ago he stated his views as follows: "This unsatisfactory state of our knowledge has led to the laying of altogether too much importance on the secondary infections of atrophic children. This is especially true of otitis media. As a matter of fact, pus is often found in the middle ear of children who have died in a condition of atrophy. A natural result of this finding was the belief that bacterial products of a poisonous kind could be absorbed from the purulent areas produced by these bacteria, and that in consequence the atrophy is nothing more than the result of a septic intoxication. The question was never asked of the clinician whether the otitis media first appeared when the child was already atrophic, or whether it ushered in the entire process. The finding of a purulent otitis media was regarded as sufficient ground for teaching physicians that atrophy is the result of otitis media.

"One thing at least can be said for pathologists: they were at all times of one mind. They were at first all fully convinced that there was an intestinal atrophy and they were later convinced that otitis media played a most alarming part in the high infant mortality. This unanimity of opinion was not to be found among the clinicians at any time.

"Atrophy is not a disease per se, but a disturbance in growth and in general nutrition, which is the result of nutritional disturbances, or of infectious processes, or of both. The clinical picture may be the same in all these instances, but a differentiation based on etiology is of great importance to us on account of prophylaxis and therapy. If the disease is a nutritional disturbance, splendid results can be obtained by dietetic management. If, however, an infection which we cannot therapeutically influence is the exciting factor, we are often placed in a position where we can neither check nor cure the atrophy."

A recent discussion of this question by Dr. Oscar Schloss indicates again the lack of proof that otitis media is a causative factor in the production of severe diarrhea. At a meeting at the New York Academy he mentioned some of the outstanding objections: "There is much evidence against Doctor Marriott's views. Diarrhea is not a common symptom of clinical mastoiditis. Otitis media, which is always accompanied by pus in the mastoid antrum, is an extremely common disease and is rarely accompanied by severe diarrhea. The mastoid antrum and middle ear of infants are exceedingly small and a toxin must be extremely powerful and absorption very active to cause the severe symptoms of intestinal intoxication."

Still more interesting is the statement that "of fifty-one postmortem examinations in cases of diarrhea and dehydration for the past four years at the New York Nursery and Child's Hospital, pus was found in the middle ear and mastoid antrum in thirty-nine cases. In no case was a true mastoiditis with involvement of the bone present."

From the foregoing it is at once evident that the question is by no means settled, and a final judgment, at least temporarily, must be deferred. The situation is summed up by Doctor Schloss, who says: "Despite all theoretical objections, it would seem that the proof of Doctor Marriott's view must rest on a therapeutic test. If he can show that by early operation on the mastoid antrum the mortality from diarrhea is substantially less than by other methods, it will go a long way toward proving his view."

Finally, one more point deserves attention. The operation, as performed at the St. Louis Clinic, is extremely simple, and carried out so rapidly, that it does little, if any, harm to the patient's general condition. Under local anesthesia a small button of bone is removed over the antrum and a drain inserted. No curettage is done, but a probe is usually inserted through the aditus to

render it patent. Some of the bad results seen in many of the other clinics may be attributed to operators who attempt to do the standard type of mastoidectomy in these critically ill patients.

PHILLIP E. ROTHMAN, Los Angeles.

Diphtheria

Synthetic Diphtheria Antitoxin.—Under the stimulus of the newer concepts of immunology [1] several recent attempts have been made to prepare artificial specific antitoxins. A very suggestive result has recently been reported by Sdrawosmisslow and Kostromin of the Bacteriological Institute, Perm, Russia.[2] These workers incubated diphtheria toxin with a large excess of trypsin, and obtained a nontoxic toxin "trypsinate" which, in their hands, was apparently identical with true diphtheria antitoxin.

Although Kimmelstiel of the Hygienic Institute, Breslau, Germany [3] has recently questioned this conclusion, offering an alternate explanation of their observed antitoxic effects, she does not question their claim that their "trypsinate" has distinct antitoxic properties.

W. H. MANWARING, Stanford University.

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2. Ztschr. f. Immunitätsforch u. exper. Therap., Vol. liv, p. 1, 1927-28.

3. Ibid., Vol. lxii, p. 245, 1929.

Medicine

PART II*

The Present Status of Liver Function Tests. It is a very different story with the excretion tests of liver function. Here we have at our command at least three reasonably simple tests of which we can expect definite information in regard to suspected liver injury in individual cases. In the first place, there is the quantitative estimation of serum bilirubin by means of Bernheim's icterus index,[1] or the more complicated quantitative van den Bergh. Then we have the quantitative urine urobilogen test, the simplest of the three, if the Wallace-Diamond technique be used.[2] Finally, one can use one of the dye excretion tests of which the Rose-Bengal [3] test is preferable to others. Below is given a brief discussion on what tests to select and what to expect of them in the more common liver conditions.

1. In *catarrhal jaundice* the icterus index and the dye excretion tests are practically parallel in their reports on the degree of liver injury and the same is true of the urine urobilinogen except that at the height of the disease there is almost no urobilogen found probably due to almost complete obstruction of the bile passages. Since these liver function tests have taught us that in catarrhal jaundice the amount of liver damage is parallel to the depth of jaundice, there is for all practical purposes no necessity of doing them in ordinary cases of this disease.

2. In *obstructive jaundice* of any type the depth of color is a satisfactory measure of the amount of liver damage just as in catarrhal jaundice. In addition, here it is often valuable to know, from the standpoint of diagnosis and prognosis, the exact degree of jaundice and especially its trend to increase or decrease. In this respect the icterus index is much more accurate than the eye. In complete biliary obstruction urobilogen disappears from the urine altogether.

3. In *arsenical jaundice* all three tests are positive and about equally reliable. No arsenicals should be given till the return of function to normal, as shown by one or more of these tests.

4. *Carcinoma of the liver* and bile ducts with obstruction belongs in the class of obstructive jaundice. In carcinoma of the liver without obstruction, dye excretion seems to be impaired most often (in about 70 per cent of cases in one series); an increased icterus index is a close second (in about 60 per cent) and increase in urobilogen comes third with positive results in only 40 per cent of cases. The explanation for such poor results is that carcinoma involves the liver only in spots, leaving much healthy liver tisssue for compensation of function. From this it can be said that in suspected cases of carcinoma of the liver only positive results are of value.

5. *Cirrhosis of the liver*, whether of the portal or biliary type, always shows a reduction of dye excretion, the extent of which is a reliable guide to the degree of liver damage. This fact is of special importance since the icterus index only shows the presence or absence of latent jaundice in portal cirrhosis and the degree of jaundice in biliary cirrhosis, while the increase in urobilogen is by no means a constant factor in cirrhosis as well as in other chronic liver conditions. The dye test is of special value in differential diagnosis of portal cirrhosis in the presence of ascites because dye excretion is normal in cardiac failure, tuberculous peritonitis, and carcinomatosis of the peritoneum. On the other hand, urobilogen is often increased in chronic passive congestion of the viscera.

6. In *severe infections of the liver* both the dye retention and increase in urine urobilogen are marked and express the degree of liver involvement, while the increase in the icterus index may be slight.

7. Finally, in *diseases of the hematopoietic system* like hemolytic jaundice, pernicious anemia, polycythemia, leukemia, and Gaucher's disease, dye elimination is normal. In Banti's disease dye retention indicates the presence of cirrhosis of the liver. The icterus index in these conditions serves merely as an index of hemolysis and urine

* Part I appeared in the January issue of California and Western Medicine.

urobilogen is usually increased in cases of excessive blood destruction.

Before closing I would like to say that I do not share the opinion often expressed that liver function tests compare unfavorably with kidney function tests. If we take as an example the dye excretion tests, the two most frequent criticisms are: First, that it does not express the impairment of all functions of the liver, and, second, that when the test is positive there are already other signs of liver disease present. But precisely the same is true of the phthalein test for kidney function: While the retention of the dye roughly corresponds to that of nitrogenous products in the blood, it gives us no idea in regard to water or salt retention. Also one usually does not do the phthalein test unless there are some clinical indications of kidney damage and, I might say, unless another excretion test of the kidney, namely, a urine analysis, has shown some abnormalities.

The conclusion from this review of liver function tests is that, by judicious selection of one or more from the three discussed excretion tests, it is possible in most cases to confirm a suspicion of liver damage when it is present and to gain some conception of its extent.

T. L. ALTHAUSEN, San Francisco.

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3. Epstein, N. N., Delprat, J. D., and Kerr, W. J.: The Rose-Bengal Test for Liver Function, J. A. M. A., 88:1619, May 21, 1927.

Allergy

Acute Articular Rheumatism an Allergic Manifestation.—Swift has recently suggested that acute articular rheumatism is a manifestation of allergy. It has long been known that there is a relationship between tonsillitis and the joint infection. With the allergic conception this seems satisfactorily explained.

When the primary infection is in the tonsils, the streptococci and the protein derived from them gain access to the blood stream; and, in the same manner as in tuberculosis, the body cells are rendered sensitive to streptococci and their products.

There are certain tissues which streptococci are prone to infect, among which are the heart valves and joint structures. These localizations are probably selective, the same as the tonsils are the location of choice in the primary streptococcus infection and in diphtheria; and Peyer's patches in typhoid fever.

Streptococci may escape from the tonsillar infection and circulate in the blood in small quantities, the same as tubercle bacilli, without producing illness. But let them become implanted in a joint or in the heart valves and an immediate reaction occurs, differing according to the nature of the tissues in the two situations. In both instances the cells have been sensitized by the circulating streptococcus protein. In the former the allergic reaction shows as a predominantly exudative process which later may become predominantly proliferative or may disappear by absorption of the exudate. Large quantities of serum may be poured out in the joint just as large effusions occur in the pleura when it is the seat of an allergic reaction in tuberculosis. In the heart valve, on the other hand, the tissues are dense and the reaction, while inflammatory, shows a preponderance of proliferation and a minimum of exudation. The after course of the infection will depend on its severity and upon whether or not the allergic reaction is kept up for a period of time by further quantities of streptococci and streptococcal products gaining access to the blood stream and coming in contact with the joint or valvular tissues. Where the tonsils are furnishing the source of repeated reinoculations, immediate tonsillectomy should relieve the exacerbations, unless further reinoculation is caused by the trauma of the operation. Owing to the fact that there is great danger of reinoculations following tonsillectomy during acute inflammation, it is a very questionable procedure, however, and should be done only after most careful consideration. If no new exacerbations are taking place, the removal of the tonsils can await recovery of the joint.

F. M. POTTENGER, Monrovia.

Medical History Course at University of California School of Medicine.—The University of California Medical School will inaugurate a new course in the field of medical history and bibliography with the opening of instruction for the spring semester on Tuesday, January 14, according to an announcement just made by Dr. Langley Porter, dean of the school.

In order to provide instruction in these subjects two appointments to the faculty have been made. Dr. LeRoy Crummer of Omaha, Nebraska, has accepted appointment as clinical professor of medical history and bibliography, beginning this month, and Dr. Sanford Larkey has been appointed assistant professor of medical history and bibliography, effective July 1, 1930.

Doctor Crummer visited California in January, 1929, to give a series of lectures on old medical books and medical history. To illustrate his lectures he brought with him part of his own collection of rare books which is one of the best in the country. The portion that he brought with him was valued at $96,000.—*University of California Clip Sheet.*

The Surgeon's Hands

His face, I know not whether it be fair
Or lined and grayed to mark the slipping years,
His eyes, I do not glimpse the pity there.
Or try to probe their depths for hopes or fears.
Only upon his wondrous hands I gaze.
And search my memory through so fittingly
To voice their loveliness, in still amaze
I bow before their quiet dignity.
They make the crooked straight and heal old sores,
The blind to see, the war-torn clean and whole.
Throughout the suffering world they touch the doors
That open wide to life, the bitter bowl
Of pain they sweeten till the weary rest,
As though the hands of Christ had served and blest."

—*Ida Norton Munsen.*

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

MORTON R. GIBBONS ..... President
LYELL C. KINNEY ..... President-Elect
EMMA W. POPE ..... Secretary

OFFICIAL NOTICES

Next Council Meeting.—A special meeting of the Council of the California Medical Association has been called for Saturday, March 1, at 10 a. m., at the home of Doctor Kress, Uplifters Club, Santa Monica.

Optional Medical Defense.—"I think my membership lapsed this year. Will you see if I am entitled to assistance?" is a telephone message that comes to your state office more than once. Recently, the call was from a member who had carried insurance continuously from 1924 to 1929. His suit was for $100,000, the usual modest sum demanded by the present disgruntled patient. Protection for 1930 has since been secured, and probably will hereafter be carried so long as optional defense is available.

Ten dollars may loom large when no suit is threatening, but it shrivels to a paltry sum in the face of definite court action.

Members who, when suit threatens, will want the counsel of the Association's legal advisers can secure it through Optional Medical Defense service at the nominal figure of $10 a year. Favorable decision now may save years of regret. Cards of application and more detailed information will be sent on request. Address 2004, Four Fifty Sutter Street, San Francisco.

Hotel Rates for Annual Session.—Members who plan to attend the annual session at Hotel Del Monte, April 28 to May 1, inclusive, will be interested in the following information.

Every member should make his reservation early, and insist on confirmation of same.

Hotel Del Monte
American Plan

Single room without bath (one person), $8.
Double room without bath (two persons), $7.50 each.
Single room with bath (one person), $10.
Double room with bath (two persons), $9 each.
Two single rooms, bath between (two persons), $9.50 each.
Two double rooms, bath between (four persons), $8.50 each.

If all available space is utilized, six hundred members can be accommodated. It is hoped that members will bear in mind the necessity for utilizing double rooms as much as possible.

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San Carlos Hotel, Monterey
European Plan

Single room, shower bath, $2.50 and $3.
Double room, shower bath, $4.50.
Double room, tub bath, $5.
Twin-bedded room, tub bath, $6 to $7.
Extra cot in room, $1.50 each.

Pebble Beach Lodge
European Plan

Single room with bath, $7 to $12.
Double room with bath, $8 to $14.

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Kimball and Monterey, Monterey
European Plan

Rooms range from $1.50 to $4.50.

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Luncheon and Dinner Rates at Del Monte

For members stopping in other hotels during the convention, Hotel Del Monte has made a special price for luncheon of $1.50 and for dinner, $2. Ticket may be purchased at the cashier's window, or at the entrance to the dining room, before each meal.

COMPONENT COUNTY SOCIETIES

ALAMEDA COUNTY

The regular meeting of the Alameda County Medical Association was held in the auditorium of the Board of Education's new administration building at 8:15 p. m. Doctor Meads was in the chair. The evening was devoted to a clinic by Dr. L. F. Barker, professor emeritus of medicine of Johns Hopkins University.

Doctor Barker discussed four cases, the first a case of polyposis of the colon in which the x-ray pictures were diagnostic of the condition and in which x-ray therapy brought about almost complete cure. Doctor Barker pointed out the fact that the x-ray is absolutely diagnostic in this condition and the further fact that there is a definite relation between polyposis of the large bowel and carcinoma of the rectum, so much so that the doctor prophesied rectal cancer as an ultimate lesion in this patient. The use of x-ray therapy is interesting in view of the fact that this is one of the first cases of the kind successfully treated by this agent.

The second case was a man who had been operated on five months ago for a large toxic goiter, with marked temporary postoperative improvement for a few months and later a recurrence of all symptoms. Doctor Barker demonstrated all of the characteristic eye signs of this condition, and in the discussion of the treatment suggested the possibility that an enlarged thymus was playing an important part in the condition and advised x-ray and sedative treatment such as luminal together with small doses of iodin, with the mental reservation that surgery might later be necessary.

The third case demonstrated was a man of forty-one years who had a typical history of ulcer of many years standing with many signs which at the present time suggest the possibilities of malignancy.

The fourth case demonstrated presented central nervous manifestations with many symptoms of hysteria but with a definite increase in the spinal fluid globulin, a slight leukocytosis, and a temperature of 102. Doctor Barker suggested the possibilities of a central nervous infection, particularly of an encephalitic type, and predicted the development within six months of a Parkinsonian syndrome.

Following the clinic, Dr. Clarence W. Page read an "In Memoriam" to Frank W. Simpson, and the meeting adjourned out of respect to the memories of Doctors Frank W. Simpson and Ilo R. Aiken, both of whom had been called by death within the month.

GERTRUDE MOORE, *Secretary.*

* For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index reference on the front cover, under Miscellany.

CONTRA COSTA COUNTY

The Contra Costa County Medical Society met at Memorial Hall, Crockett, on January 14, Doctor Bumgarner presiding. Dr. John Scudder of Oakland read a very interesting paper on the "Errors in Diagnosis of Appendicitis." The doctor gave a very complete review of the literature on the subject and discussed the differential diagnosis of appendicitis in detail. Operative failures from chronic appendicitis were attributed to improper diagnoses. The relapsing form of chronic appendicitis is the most successful, from an operative standpoint. Much hearty discussion of Doctor Scudder's paper was participated in by members.

At the request of the Contra Costa Public Health Association a resolution was unanimously passed favoring the investigation by the County Board of Supervisors of the advisability of hospitalizing tuberculous cases from this county in Sunshine Camp instead of Weimar Sanitarium, and assuring them of the coöperation of the society in this health problem. Dr. I. O. Church, county health physician, reported on the work being done by the Contra Costa Public Health Association. Dr. J. M. McCullough was appointed delegate to the next executive board meeting of the Association to be held February 2 at Sunshine Camp.

Important business matters, such as fee schedule and membership dues, were also discussed, but no action was taken.

While the society was having its scientific meeting the physicians' wives met at the home of Mrs. J. M. McCullough for the purpose of forming a woman's auxiliary to the medical society. Formation of this auxiliary was voted, with officers as follows: President, Mrs. J. M. McCullough of Crockett; first vice-president, Mrs. L. H. Fraser of Richmond; second vice-president, Mrs. H. D. Neufeld of Bay Point; secretary, Mrs. S. N. Weil of Rodeo.

After the business meeting a delightful supper was served to members of the society and auxiliary and guests at the Crockett Memorial Hall. Dr. and Mrs. McCullough were the hosts.

A symposium on respiratory diseases by members of the society was announced as the program of the next meeting.

L. H. Fraser, *Secretary.*

FRESNO COUNTY

The regular monthly meeting of the Fresno County Medical Society was held Tuesday, January 7, at 8 p. m. at the Hotel Fresno. Forty members were present.

The minutes of the previous meeting were read and approved.

It was moved by Doctor Tupper, seconded by Doctor Vanderburgh, that Dr. K. D. Luechauer's application for membership in the society be accepted.

The president appointed the following committees for the year:

Board of Censors—Harry J. Craycroft (chairman), B. B. Lamkin, D. I. Aller.

Ethics Committee—John D. Morgan (chairman), E. R. Scarboro, Neil Dau.

Library Committee—H. O. Collins (chairman), G. A. Hare, Guy Manson.

Program Committee—C. M. Vanderburgh (chairman), Kenneth J. Staniford, L. R. Willson.

Welfare Committee—A. B. Cowan (chairman), J. R. Walker, C. P. Kjaerbye.

Publicity Committee—C. O. Mitchell, E. L. Bennett, A. E. Anderson.

Dr. W. F. Wiese was appointed to audit the society's books for the year 1929.

Dr. Julian M. Wolfsohn, psychiatrist of Stanford University, gave a talk on "Symptomatic and Idiopathic Epilepsies," which was very much enjoyed. The symptomatic epilepsies he divides into those due to brain tumor; traumatic epilepsy; syphilis; toxic epileptiform convulsions, which are commonly due to alcohol; those associated with arteriosclerosis and cardiovascular diseases; those associated with acute infections, especially scarlet fever; and the convulsions of infancy and childhood. These form the connecting link with the next class, namely, idiopathic epilepsy.

Doctor Wolfsohn discussed in detail the different forms in which the seizure appears and reviewed the various methods of treatment. In treatment, Doctor Wolfsohn adheres to sodium bromid, fifteen to twenty grains three times a day, and in cases of petit mal he gives, in addition, three to four minims of tincture of belladonna three times a day. The first dose of sodium bromid is taken in the morning before getting up. When the attacks are not controlled by this method, three-quarters of a grain of luminal are given at bedtime.

Meeting adjourned.

J. M. Frawley, *Secretary.*

NAPA COUNTY

The regular meeting of the Napa County Medical Society was held Wednesday, January 8, at the new Victory Hospital. The members of the medical society were guests of the hospital board of directors, who provided a delicious dinner preceding the business meeting. The new Victory Hospital is a modern, fireproof structure of thirty-three beds, and fills a much needed want in the community.

Dr. George Dawson, president, opened the business meeting. The minutes of the previous meeting were read and approved. Dr. Orville Rockwell of the St. Helena Sanitarium and Dr. C. E. Sisson of the Napa State Hospital were admitted to membership by transfer from the San Francisco County Medical Society and the Mendocino County Medical Society.

The speaker of the evening, Dr. Edmund Butler, chief of the San Francisco Emergency Hospitals, gave a valuable talk on "The Equipment of the Emergency Room in a Hospital" (illustrated with lantern slides), and discussed some of the problems to be met. He also exhibited and discussed a motion-picture reel of some European clinics which he recently visited. This was followed by an informal discussion of his subject. There were twenty-two physicians present, including the speaker, Dr. Bull, of the Shriners' Hospital for Crippled Children, San Francisco; Dr. James Eaves of Oakland and Dr. Michelson of Lane Hospital, San Francisco.

Members present were: George Wood, D. H. Murray, C. E. Nelson, Robert Northrup, H. V. Baker, A. K. McGrath, W. L. Blodgett, George I. Dawson, C. A. Johnson, Robert Crees, L. Welti, C. H. Bulson, H. R. Coleman, E. F. Donnelley, I. E. Charlesworth, C. A. Gregory. Visitors: C. E. Sisson, A. E. Chappel.

The president, Dr. George Dawson, was given authority to appoint a committee to confer with the state society relative to a conference with the legal profession concerning malpractice suits.

Meeting adjourned.

C. A. Johnson, *Secretary.*

ORANGE COUNTY

The forty-second annual banquet of the Orange County Medical Association was held January 7 at the Santa Ana Country Club, Santa Ana. Approximately one hundred members and their wives were present. A delightful menu and program, with Dr. Merrill W. Hollingsworth as toastmaster, helped to make this evening a pleasant and successful social event of the year.

A most interesting talk was given by Dr. F. Harold Gobar of Fullerton, retiring president, on "Medical Libraries." Our own medical library is now well started and all members of the society have the privi-

lege of using it. Other delightful talks were given by Mrs. F. E. Coulter and Judge Frank C. Drumm.

Mrs. F. E. Coulter is president of the Woman's Auxiliary of the society, just recently organized. Judge Frank C. Drumm gave the principal address of the evening on "Medical Ambitions." Several musical numbers were interspersed between these talks.

At the end of the meeting the following members of the society were introduced as officers for the year 1930: H. Miller Robertson, president; Emerald J. Steen, vice-president; Harry G. Huffman, secretary treasurer; Charles D. Ball, librarian. Councilors: Jay L. Beebe, Dexter R. Ball, George M. Tralle. Delegate, Dexter R. Ball; alternate, George M. Tralle. Delegate, Harry E. Zaiser; alternate, William S. Wallace.

HARRY G. HUFFMAN, *Secretary.*

SAN BERNARDINO COUNTY

The meeting of the San Bernardino County Medical Society was called to order by the president at 8 p. m. January 7.

Minutes of the previous meeting were read and approved.

The following men were accepted to membership by unanimous vote: Dr. C. W. Moots, Dr. S. A. Crooks, and Dr. F. H. Garrett.

The program of the evening was then given.

A motion picture on "Infection of the Hand" by Doctor Kanavel was presented through the courtesy of the College of Medical Evangelists at Loma Linda by Dr. G. M. Taylor of Los Angeles.

A paper on "Fractures and Dislocations of the Hand Excluding the Radius and Ulna" by Dr. Philip Stephens of Los Angeles followed.

The discussion of these papers was conducted jointly, and opened for the first paper by Dr. Philip Savage of San Bernardino and for the second paper by Dr. K. L. Dole of Redlands.

Members who had interesting or unusual cases of infection or injuries of the hand, past and present, were invited to present these cases as part of the discussion.

Supper was served at 10:30 o'clock.

Doctor Savage was called away and Doctor Hilliard opened the discussion in his absence.

There were about forty in attendance.

E. J. EYTINGE, *Secretary.*

SAN JOAQUIN COUNTY

The stated meeting of the San Joaquin County Medical Society was held Thursday evening at 8:30 o'clock, January 2, in the Medico-Dental Club, 242 North Sutter Street, Stockton.

The meeting was called to order by Dr. C. V. Thompson, president, who immediately turned the chair over to Dr. Harry E. Kaplan, the newly elected president. The minutes of the previous meeting were read by Dr. Fred J. Conzelmann, secretary, and approved. After appropriate remarks, Doctor Conzelmann, who has most efficiently served as secretary-treasurer for four years, called to the chair the new secretary-treasurer, Dr. C. A. Broaddus.

The scientific program was opened by Dr. Emmet Rixford of San Francisco with a report on coccidioidal granuloma illustrated by slides, showing the gross and microscopic pictures of the lesions.

The principal paper of the evening was presented by Doctor Rixford on the subject of "Postoperative Treatment in Abdominal Surgical Cases."

The doctor evidently disapproves the use of much treatment and therapeutic frills. He quoted from his former teacher, Dr. Clinton Cushing, who often admonished his students with the phrase, "Don't fuss!" He further quoted the great French surgeon, Ambroise Paré, who said, "I dressed his wound, but God healed it."

"A patient who is sanely prepared for operation by rest, mild catharsis, and simple cleansing of the site of incision stands the best chance for rapid recovery. The proper maintenance of body warmth in the patient during operation without excessive heat and humidity in operating room is highly essential.

"To avoid shock and postoperative adhesions it is essential to handle the intestines as little as possible and to keep them within the abdomen.

"After operation keep the patient quiet, without visitors, and use narcotics. Allow time for peristalsis to start before giving food, but try to anticipate the appearance of acetone, which demands the resumption of feeding. Vomiting is to be controlled by emptying the stomach by lavage, being sure there is no intestinal obstruction, which is always to be suspected.

"The most suitable remedy in shock is transfusion from a proper donor. Caffein in two to three grains every two or three hours is very valuable. Tyramin, one-third grain hypodermically, is valuable for quick action; digitalis derivatives for sustained action.

"Normal urination does not occur ordinarily for twelve to twenty-four hours and stimulative aids should be patiently tried before resorting to the use of a catheter. Even catharsis is to be used with care, and only after resort to milder methods has failed. The use of pituitrin to stimulate peristalsis is regarded with disfavor.

"Postoperative pain is best controlled by morphia. Many patients sleep comfortably the first night if they receive an enema of opium and chloral. For gas pains the best treatment is with hot moist compresses. Peritonitis is controlled by the time-honored opium treatment. Hypodermic injection of serums, prepared from intestinal bacteria, is of great value, but best of all is the use of a proper bacteriophage.

"Prophylaxis is the proper procedure in venous thrombosis by omitting the use of catgut sutures for wound closure and maintaining blood pressure by proper methods."

Doctor Conzelmann, the retiring secretary, spoke next on the "Ethics of Psychiatry," the study of the structure of the mental life and of its functional disorders. Ethics, on the other hand, deals with the standards of right and wrong. It deals with what ought to be, rather than what actually is. Psychiatry, by virtue of its intimate survey of the mental life and of the personality, is particularly concerned with the remaking of human nature and of the world on which we live. The descriptive data which mental science offers is of great importance to the student of ethics and equally the consideration of ethical values is of great importance to the creed of the psychiatrist. Psychiatry presents us with distinctive mental types; it is a study of individual differences, individual capacities. Its practical purpose is to remove obstructions, conflicts and repression, to obtain adequate adjustment.

The discussion of papers was led by Dr. J. D. Dameron and Dr. Linwood Dozier.

At the roll call the following members were present: Drs. E. A. Arthur, Barnes, Blackmun, Blinn, Broaddus, Buchanan, Conzelmann, Dameron, Doughty, Dozier, English, Foard,. Frost, Goodman, Hansan, Hull, Kaplan, Krout, McCoskey, McGurk, McNeil, Marnell, O'Donnell, Owens, Petersen, Pinney, B. J. Powell, D. R. Powell, Priestly, Sanderson, Sheldon, M. H. Smyth, C. V. Thompson, Van Meter. Visitors

present were: Mrs. Rixford and Drs. Sutton, Vanderleek, Kilgore, and Weiss.

There being no further business the meeting was adjourned at 11:15 o'clock and refreshments were served. C. A. BROADDUS, *Secretary.*

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SAN MATEO COUNTY—SANTA CLARA COUNTY

The December meeting of the San Mateo Medical Society was held in conjunction with the Santa Clara Medical Society at the Oak Tree Inn, San Mateo, December 18. Following dinner the meeting was turned over to the president of the Santa Clara Society, who introduced the speakers of the evening, members of the Santa Clara Society.

Dr. Charles A. Fernish gave a paper on "Injection Method of Treating Varicose Veins." Dr. L. M. Rose presented a paper on "Pathology of the Heart," accompanied by records of cardiac rhythms. Dr. J. H. Shephard treated the subject of "Pathology of the Esophagus," very comprehensively. The discussions were instructive, and were enjoyed by the members of both societies.

The joint meeting was attended by a good representation from each society, about forty-five being present.

ERMA B. MACOMBER, *Secretary.*

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STANISLAUS COUNTY

The Stanislaus County Medical Society held its regular meeting on January 10. The meeting was called to order by President Hiatt. Members present were: Doctors Collins, Cooper, Finney, Morris, McKibbon, Bemis, Mottram, Yocum, Morgan, Maxwell, Fields, Downing, Gould, Hartman, DeLappe, Robertson, Hiatt, Pearson, McPheeters, and Ransom.

The minutes of the previous meeting were read and approved.

A letter from the County Nurses' Association asking the Medical Association if they desired the nurses to start a physicians and surgeons' exchange, was read. The letter was tabled for further information.

The secretary made a report of a meeting held the previous week of representative Modesto business men when the advisability of building a new hospital in Modesto was discussed. President Hiatt appointed a committee of six doctors to meet with this committee: Doctors DeLappe (chairman), Gould, Maxwell, Morgan, Falk, and Collins.

The new county charter was discussed by various members and it was the consensus of opinion that the members should vote against it.

Dr. Sterling Bunnell of San Francisco gave a very interesting talk on the subject "Nerve Surgery."

Meeting adjourned.

DONALD L. ROBERTSON, *Secretary.*

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VENTURA COUNTY

The January meeting of the Ventura County Medical Society was held on January 14 at the Clinic building of the Ventura County Hospital at 8 p. m. The meeting was called to order by Vice-president W. S. Clark.

Those present were: Doctors Armitstead, Bardill, Bianchi, W. S. Clark, D. G. Clark, Coffey, Felberbaum, Jones, Schultz, Smolt, and Welsh. Doctors Henry J. Ullmann and Richard Evans of Santa Barbara were present as guests.

Doctor Ullmann, president-elect of the American Radium Society, gave an extremely interesting lecture illustrated by lantern slides. His subject was the treatment of malignant disease by the use of radium, x-ray, and chemotherapy. The lecture dealt chiefly with skin cancer, though a portion of it was devoted to cancer of the cervix.

Due to lack of time, no business meeting was held after the lecture and the meeting was adjourned.

CHARLES A. SMOLT, *Secretary.*

CHANGES IN MEMBERSHIP

New Members

Alameda County—Clarence S. Gardner and Harold Philip Maloney.

Kern County—Seymour Strongin and Mark A. Williamson.

Placer County—Arthur William McArthur and Ralph B. Miller.

Santa Clara County—Harry Beal Torrey and Frank I. Putnam.

Transferred Members

Christopher Leggo, from San Francisco to Solano County.

Eugene C. Grau, from Humboldt to Alameda County.

Deaths*

Browning, Frederick William. Died at San Francisco, December 30, 1929, age 64 years. Graduate of the Royal College of Physicians and Surgeons, Edinburgh, Scotland, 1888. Licensed in California, 1894. Doctor Browning was a member of the Alameda County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Draper, Alfred Lawrence. Died at San Francisco, January 3, 1930, age 55 years. Graduate of Cooper Medical College, San Francisco, 1900. Licensed in California, 1901. Doctor Draper was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Jacobs, Edward H. Died at Los Angeles, December 21, 1929, age 51 years. Graduate of Rush Medical College, Chicago, 1903. Licensed in California, 1911. Doctor Jacobs was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

McKinnon, Wilfred Charles. Died at San Francisco, December 20, 1929, age 30 years. Graduate of the University and Bellevue Hospital Medical Colleges, New York, 1925. Licensed in California, 1928. Doctor McKinnon was a member of the San Francisco County Medical Society, the California Medical Association, and the American Medical Association.

Munroe, Harrington Bennett. Died at Los Angeles, December 17, 1929, age 52 years. Graduate of McGill University Faculty of Medicine, Montreal, Quebec, 1903. Licensed in California, 1917. Doctor Munroe was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Shiels, John Wilson. Died at San Francisco, December 30, 1929. Graduate of Royal College of Physicians and Surgeons, Edinburgh, Scotland, 1895. Licensed in California, 1898. Doctor Shiels was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Sweeney, George J. Died at San Francisco, December 27, 1929. Graduate of University of California Medical School, San Francisco, 1900. Licensed in California, 1900. Doctor Sweeney was a member of the San Francisco County Medical Society, the California Medical Association, and the American Medical Association.

Tate, C. Francis S. Died at Los Angeles, December 16, 1929, age 56 years. Graduate of University of Southern California School of Medicine, Los An-

* Erratum.—Correction is hereby made of the notice of death of Joseph Alexander Parker, M. D., of Los Angeles, which appeared in the November issue, page 367. The notice should have read, "Dr. J. A. Parker of San Francisco."

geles, 1895. Licensed in California, 1895. Doctor Tate was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

Thompson, Roy Oliver. Died at Calexico, December 22, 1929, age 43 years. Graduate of University of Southern California School of Medicine, Los Angeles, 1914. Licensed in California, 1914. Doctor Thompson was a member of the Imperial County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

OBITUARIES

John Wilson Shiels

On December 30, 1929, John Wilson Shiels passed away at the Franklin Hospital following a laparotomy designed to relieve, if possible, a digestive disturbance that had interfered seriously with his comfort and well-being for some time.

Born in San Francisco, he graduated from the School of Medicine of the Royal Colleges at Edinburgh in 1895. At this time he also become a licentiate of the Royal College of Physicians, Edinburgh, of the Royal College of Surgeons, Edinburgh, and of the Royal Faculty of Physicians and Surgeons of Glasgow.

During his period of study in Edinburgh he found time to become a noted swimmer and amateur middleweight boxer and to play football for his college. Above all, he was outstanding in his activities in the drama. He was a leading light in the Edinburgh Dramatic Society and served as its president for several years.

He returned to San Francisco and was licensed to practice medicine in California in 1898 and began to build that reputation for skill, clinical judgment and broad human kindliness which endeared him to his patients and to the profession.

He joined the medical faculty of the University of California in 1906 and at the time of his death was a clinical professor of medicine in the medical school. He was instrumental in organizing the San Francisco Polyclinic and was one of its mainstays for many of its best years.

He was always proud of his association with the Medical Corps of the United States Army. He received his commission among the first when the Medical Reserve Corps was formed in 1907, and this commission, signed by Theodore Roosevelt, was always cherished by him. On the entry of the United States into the war in 1917 he was immediately commissioned Captain, National Army, and shortly received his majority. He was on duty as chief of the medical service at Letterman General Hospital, which hospital he actually commanded for a short period. He gained golden opinions from every one and when the Reserve Corps was reorganized after the war he was commissioned Lieutenant-Colonel and five years ago received his commission as Colonel.

For the past eight years he was active as chief of the Department of Internal Medicine of the Franklin Hospital, and his ability, personality, energy and brilliant attainments helped largely to place the Franklin Hospital among the best hospitals of San Francisco.

His histrionic ability and his love for play writing gave him ample opportunity for literary and artistic expression. In 1908-09 he was president of the Bohemian Club and in 1914 he wrote the Grove play, "Nec Natoma." On many occasions he took leading parts in the plays presented by the Bohemian Club.

The qualities of mind and soul which made "Jack" Shiels beloved by his patients, associates and club fellows, gave him the personality and powers of a great teacher and physician. He was truly both of these, a master of medical lore and a lover of his fellow man—understanding, kindly, self-sacrificing, with a heart that yielded most to those whose need was greatest.

Medicine in California has lost one whom it can ill afford to lose—a great teacher, a great practitioner, a physician whom his colleagues and patients loved and of whom they were proud.

* * *

AN APPRECIATION OF A GENIUS BY ONE WHO KNEW HIM

Life holds many beautiful things, but little that is more beautiful than the associations that are possible when one has the privilege of working with brilliant minds.

It is probably the most selfish form of pleasure, for one receives so much and can give so little in return. It was my opportunity to have had such a privilege in my association with the late John Wilson Shiels. Man, scholar, friend, athlete, artist, actor and, last but by no means least, physician extraordinary.

ARTHUR COLLIS GIBSON, M. D.

* * *

George J. Sweeney

By the death of Dr. George J. Sweeney in San Francisco on December 27, 1929, the medical profession has lost one of its valued members.

Dr. Sweeney was born in Petaluma, California, in 1870; received his medical degree from the University of California in 1900. He was a member of the California Medical Association and the San Francisco County Medical Society. For twelve years he served with distinction as medical director of the French Hospital. For the past number of years, and until the time of his death, he devoted himself to general practice.

Dr. Sweeney was typical of the best in the practice of medicine. His life was characterized by devotion of all his powers and skill to the alleviation of the suffering, rendering medical aid to the poor, and to public welfare. His kindness and sympathy to those in need of his services and assistance gained for him an affection on their part and the part of his friends that will linger in their memories forever.

* * *

Wilfred C. McKinnon

Dr. McKinnon was one of the younger members of the medical fraternity in San Francisco, being twenty-nine years old at the time of his death, Christmas Day would have been his thirtieth birthday.

He took his pre-medical work at the University of California and received his M. D. from New York University and Bellevue Hospital Medical College. Following his graduation from medical college he served two years in Newark City Hospital, Newark, New Jersey, during the concluding six months of which he was house surgeon. Following his internship he spent some time abroad before locating in San Francisco. He had been practicing in this city a little over a year.

He was an able young physician, with a rapidly growing practice and a very promising future. In addition to competency in his profession he had a kind, sympathetic, and charming personality and had a host of friends in this city and elsewhere in Northern California.

He was born in Arcata, California, being the son of Dr. and Mrs. George W. McKinnon of that city, who survive him. Dr. George W. McKinnon is a well-known Humboldt County physician. Besides

his parents he is survived by a brother, Harold R. McKinnon, a San Francisco attorney. He resided with his brother at the University Club, San Francisco.

He was a member of Nu Sigma Nu.

THE WOMAN'S AUXILIARY OF THE CALIFORNIA MEDICAL ASSOCIATION *

MRS. H. S. ROGERS.....President
Sunny Slope Road, Petaluma
MRS. W. H. GEISTWEIT.....First Vice-President
810 Medico-Dental Building, San Diego
MRS. JOHN HUNT SHEPHARD....Second Vice-President
145 South Twelfth Street, San Jose
MRS. R. A. CUSHMAN.....Secretary-Treasurer
632 North Broadway, Santa Ana

OFFICERS OF COUNTY AUXILIARIES

Contra Costa County

President, Mrs. J. M. McCullough, Crockett.

First vice-president, Mrs. L. H. Fraser, Richmond.

Second vice-president, Mrs. H. D. Nuefeld, Bay Point.

Secretary-treasurer, Mrs. S. N. Weil, Rodeo.

Los Angeles County

President, Mrs. James F. Percy, Los Angeles.

First vice-president, Mrs. P. S. Doane, Pasadena.

Second vice-president, Mrs. B. von Wedelstaedt, Long Beach.

Secretary-Treasurer, Mrs. Martin G. Carter, Los Angeles.

Kern County

President, Mrs. F. A. Hamlin, Bakersfield.

First vice-president, Mrs. F. J. Gundry, Bakersfield.

Second vice-president, Mrs. A. R. Moodie, Taft.

Secretary-treasurer, Mrs. C. S. Compton, Bakersfield.

Orange County

President, Mrs. F. E. Coulter, Santa Ana.

First vice-president, Mrs. H. A. Johnston, Anaheim.

Second vice-president, Mrs. D. C. Cowles, Fullerton.

Secretary-treasurer, Mrs. Dexter R. Ball, Santa Ana.

San Bernardino County

President, Mrs. F. E. Clough, San Bernardino.

First vice-president, Mrs. Walter Pritchard, Colton.

Second vice-president, Mrs. A. L. Weber, Upland.

Secretary-treasurer, Mrs. C. L. Curtiss, Redlands.

ORANGE COUNTY

The second meeting of the Woman's Auxiliary of the Orange County Medical Society was held on Tuesday evening, December 3, 1929, at the Orange County Hospital. The meeting was called to order by Mrs. Clara Cushman, temporary chairman. The minutes of the previous meeting were read and accepted.

Mrs. Cushman read a letter from Mrs. Henry S. Rogers, president of the Woman's Auxiliary of the California Medical Association in which she asked Doctor Gobar to appoint a committee on organization to form a woman's auxilary in Orange County.

Mrs. Hollingsworth, chairman of the nominating committee, recommended the following names for office: Mrs. F. E. Coulter for president; Mrs. H. A. Johnston for first vice-president; and Mrs. D. C. Cowles for second vice-president.

It was recommended by the committee that the secretary-treasurer be elected in open meeting.

Nominations were called for the office of secretary-treasurer, and Mrs. Dexter R. Ball was nominated and elected unanimously.

Mrs. Cushman then asked Mrs. F. E. Coulter to take the chair. Mrs. Coulter gave a short speech of acceptance and told the purpose of the auxiliary and the general need for friendship and social contacts among the doctors and their families.

Motion was then made to adjourn until February 4, 1930, that the auxiliary might meet on the date of the regular meeting of the Orange County Society. Mrs. Grace M. Zaiser gave a series of readings, which were delightful, in the joint meeting.

EDNA M. BALL, *Secretary.*

*As county auxiliaries to the Woman's Auxiliary of the California Medical Association are formed, the names of officers should be forwarded to the state secretary-treasurer, Mrs. R. A. Cushman, 632 North Broadway, Santa Ana, and to the California Medical Association office, Room 2004, 450 Sutter Street, San Francisco. Brief reports of county auxiliary meetings will be welcomed for publication in this column.

UTAH STATE MEDICAL ASSOCIATION

H. P. KIRTLEY, Salt Lake City.....President
WILLIAM L. RICH, Salt Lake City.....President-Elect
M. M. CRITCHLOW, Salt Lake City.....Secretary
J. U. GIESY, 701 Medical Arts Building,
Salt Lake City.....Associate Editor for Utah

UTAH NEWS

Recent meetings of the Academy of Medicine, held Thursday evenings on the tenth floor of the Deseret Bank building, have been taken up by the following programs:

December 19—Coronary Occlusion — Clinical and Autopsy. Dr. E. Viko. Abdominal Pain in Children, Doctor Cheney.

January 2—Complications of Peptic Ulcers, Doctor Hatch. Pregnancy Complicated by Bicornute Uterus—Report of Case, Doctor Giesy. Gastroptosis with Spastic Colitis, Doctor Skofield.

January 9—Headache, Doctor Gordon. Care of the Lactating Breast, Doctor Wherritt. Adenitis, Doctor Sugden.

* * *

The Holy Cross Hospital Clinical Association meeting for December was held in the lecture room of the hospital on the evening of December 16.

A short program consisting of a symposium and case reports on "Double Uteri" was given by Doctors T. W. Stevenson and J. U. Giesy. Doctor Stevenson's case was surgical, the condition being discovered at operation. Doctor Giesy's case was one complicated by pregnancy, with a dead fetus and death of the mother from shock after the extraction of the child.

Following the scientific program the report of the treasurer was read and adopted, and officers were elected for the ensuing year. Election resulted in the choice of Doctor Ossman for president and Dr. Fuller Bailey for secretary-treasurer.

Meeting adjourned.

Steamship Firms Coöperating with University of California Tropic Work.—As a means of aiding the University of California in diagnosis, treatment and study of tropical diseases which transoceanic commerce brings to America, ten Pacific Coast steamship owners have subscribed to a Ship Owners' Fund of $13,750 which will be turned over to the University's Institute of Tropical Medicine at the rate of $2750 a year for the next five years.

An attempt is now being made to establish related tropical centers in Manila, Shanghai, Honolulu, and Guatemala City. Donations have also been made by other Californians as follows: George Brommel, $100 for wall charts and lantern slides; Dr. R. K. Smith, $103.45 for malaria moving-picture film; Hugo Menke, $65 for hookworm moving picture film, and John Cahill, $50 for general expense.—*University of California Clip Sheet.*

MISCELLANY

Items for the News column must be furnished by the twentieth of the preceding month. Under this department are grouped: News; Medical Economics; Correspondence; Department of Public Health; California Board of Medical Examiners; and Twenty-Five Years Ago. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Popular Medical Lectures.—The Stanford University Medical School announces the forty-eighth course of popular medical lectures to be given at Lane Hall, north side of Sacramento Street, near Webster, on alternate Friday evenings at 8 o'clock sharp. All interested are cordially invited to attend.

January 10—Diabetes, the Cause and Cure, Dr. Horace Gray.

January 24—Some Sanitary Sins of the Orient, Dr. Alfred C. Reed.

February 7—Dental Caries as Viewed by the Bacteriologist, Dr. T. D. Beckwith.

February 21—What Medicine has to Offer the Nervous Patient, Dr. Henry G. Mehrtens.

March 7—Lessons from the Biography of Genius, Dr. Lewis M. Terman.

March 21—Poisonous Animals, Dr. Karl F. Meyer.

A meeting of the San Francisco Pathological Society was held January 6 at 8 p. m. at the Southern Pacific Hospital. Ten-minute talks were on the following subjects:

Preliminary Report of Experiments with Cortical Suprarenal Extracts on Malignant Tumors, W. B. Coffey and J. B. Humber.

Stenosis of Esophagus (Probably Congenital) with Carcinoma Arising in the Dilated Esophagus, H. Brunn.

Multiple Myeloma, W. T. Cummings.

Two Spinal Cord Tumors, E. B. Towne.

Adenocarcinoma Arising from Acini of Breast, A. R. Kilgore.

Ruptured Dissecting Aortic Aneurysm, A. A. Berger.

Bone Cyst, J. R. Rinehart.

Presentation of Specimens, D. S. Pulford.

Presentation of Specimens, Fred Proescher.

The University of Southern California announces the following appointments in the School of Medicine: Dr. LeRoy Crummer, professor of the history of medicine; and Doctor Verne R. Mason, clinical professor of medicine.

LeRoy Crummer, B. S., M. D., Litt. D., professor of the history of medicine. B. S., University of Michigan, 1893; M. D., Northwestern University Medical School, 1896; Litt. D., University of Michigan, 1929. Postgraduate student at Vienna, Zurich, and London. Professor of medicine, College of Medicine and Graduate School, University of Nebraska, 1919-25; emeritus professor of medicine, 1925.

Verne R. Mason, B. S., M. D., clinical professor of medicine. B. S., University of California, 1911; M. D., Johns Hopkins Medical School, 1915. Intern, assistant resident physician, resident physician, Johns Hopkins Hospital, 1915-21; assistant in medicine, associate in medicine, Johns Hopkins Medical School, 1919-21.

The Pacific Coast Surgical Association held their annual meeting at Del Monte on February 7 and 8. Clinics were held in San Francisco two days previously. The officers of the association are: Wallace I. Terry, M. D., San Francisco, president; and Edgar L. Gilcreest, M. D., San Francisco secretary.

Meeting of San Diego Academy of Medicine.—Dr. Allen Kanavel of Chicago will give a course of lectures on February 17, 18, and 19 before the San Diego Academy of Medicine on "Infections of the Hand"; "Injuries of the Hand"; and "Diagnosis of Acute Surgical Lesions of the Abdomen."

Governor Young Appoints Members of the California Board of Medical Examiners.—The following press dispatch shows the changes made by Governor Young in the membership of the California Board of Medical Examiners.

Sacramento, Jan. 10 (By United Press).—Governor Young today announced appointment of the following members to the State Board of Medical Examiners. They are:

Doctors Harry V. Brown, Glendale, who succeeds H. M. Robertson of Santa Ana, H. A. L. Ryfkogel, succeeding A. W. Morton, both of San Francisco, and George L. Dock, Pasadena, who succeeds Wilburn Smith of Los Angeles.

Those reappointed were: Doctors Percy T. Phillips, Santa Cruz, president; Charles B. Pinkham, San Francisco, secretary and executive officer; W. R. Molony, Los Angeles; and J. L. Maupin, Fresno.

Greatest American Achievement in Science.—Search has been started for a miracle worker in science—for an American citizen whose study or experiment bears the promise of achievement of the greatest value to the world.

To the man or woman whose accomplishment in the twelve months prior to June 30, 1930, meets this test, it is announced, ***Popular Science Monthly*** will award a prize of $10,000, accompanied by a gold medal. A similar award, the largest in America for scientific accomplishment, will be made annually thereafter.

The award will be bestowed under the auspices of the Popular Science Institute, a research organization maintained by the magazine, of which Prof. Collins P. Bliss, associate dean, New York University, is director. The institute has enlisted the services of twenty-four leaders in American science to serve as a Committee of Award, whose task it will be to select the prize-winning effort.

The prize will be conferred for the first time in September 1930, and the initial period of scientific accomplishment to be considered by the Committee of Award will be the twelve months ending June 30, 1930. All scientific workers, professional and amateur, academic and commercial, are eligible.

The distinguished men comprising the Committee of Award are Dr. Charles G. Abbot, secretary, Smithsonian Institution; Prof. Collins P. Bliss, director, Popular Science Institute; Dr. Samuel A. Brown, dean, New York University and Bellevue Hospital Medical College; Dr. George K. Burgess, director, United States Bureau of Standards; Dr. William W. Campbell, president, University of California; Dr. Harvey N. Davis, president, Stevens Institute of Technology; Dr. Arthur L. Day, director, Geophysical Laboratory, Carnegie Institution; Dr. E. E. Free, consulting engineer; Travis Hoke, editor, ***Popular Science Monthly***; Dr. Frank B. Jewett, vice-president, American Telephone and Telegraph Company; Dr. Vernon Kellogg, permanent secretary, National Research Council; Charles F. Kettering, president, General Motors Research Corporation; Dr. Arthur D. Little, president, Arthur D. Little, Inc.; Dr. John C. Merriam, president, Carnegie Institution; Dr. Robert A. Millikan, chairman, executive council, California Institute of Technology; Dr. Henry Fairfield Osborn,

president, American Museum of Natural History; Dr. Elmer A. Sperry, chairman, board of directors, Sperry Gyroscope Company; Dr. Samuel W. Stratton, president, Massachusetts Institute of Technology; Dr. Elihu Thomson, director, Thomson Laboratory of the General Electric Company, Lynn Massachusetts; Dr. Edward R. Weidlein, director, Mellon Institute of Industrial Research; Henry Herman Westinghouse, chairman board of directors, Westinghouse Airbrake Company; Dr. Albert E. White, director, Department of Engineering Research, University of Michigan; Dr. Willis R. Whitney, director of research, General Electric Company, Schenectady, New York; and Orville Wright, co-inventor of the airplane.

Iodin Research Program.—Since January 1, 1928, Mellon Institute of Industrial Research, Pittsburgh, Pennsylvania, has had in operation a Multiple Industrial Fellowship founded for the purpose of investigating the properties and uses of iodin. This fellowship, which is sustained by the Iodin Educational Bureau, 64 Water Street, New York, N. Y., is headed by Dr. George M. Karns, formerly a member of the chemical faculty of the University of Illinois. All results of the fellowship studies will be published.

Recently, through an additional appropriation from the Fellowship donor, Mellon Institute, acting for the Iodin Fellowship, has made arrangements for the study of certain iodin problems in other institutions that have special facilities for such types of work. On October 7, 1929, a scholarship was founded at the Philadelphia College of Pharmacy and Science by a research grant from the institute. This scholarship—which, for the college year 1929-30, will be held by Mr. L. F. Tice—will have for its aim a broad investigation of vehicles and solvents for iodin, especially for external use in medicine. A large number of new organic chemicals will be studied as solvents with the object of evolving, if possible, a more satisfactory preparation than the alcoholic tincture now in use. The research, for which a definite program has been laid down, will be supervised by Prof. Charles H. LaWall with the advisory collaboration of other faculty members of the Philadelphia College of Pharmacy and Science and with the direct coöperation of Doctor Karns. The investigational findings of the scholarship will be reported in the literature.

Another phase of the research program includes a grant made on September 26, 1929, to the Pennsylvania State College for a comprehensive investigation—under the direction of Prof. E. B. Forbes of the Institute of Animal Nutrition—of the nutritional place and value of iodin in the feeding of live stock. Despite the large amount of work which has been done on the rôle of iodin in metabolism, especially with reference to the thyroid, very little is known regarding the specific dietetic aspects of this element, particularly in the lower animals. Doctor Karns and his coworkers on the Iodin Fellowship of Mellon Institute are coöperating closely with Doctor Forbes and his staff, mainly by preparing standardized feeds. The findings of this research also will be made available to the public, in accordance with the Iodin Educational Bureau's policy of disseminating to everyone interested the results of all investigations made under its aegis.

Mellon Institute is giving consideration to the founding of a research scholarship in a medical school for the purpose of aiding in the solution of incompletely answered questions respecting the utility of iodin in internal medicine. A number of pharmacologists are aiding the institute in determining a program for such pharmacodynamic inquiry.

University of Southern California Appointment.—The University of Southern California announces the following appointment in the School of Medicine: Robert W. Lamson, B. S., A. M., Ph. D., M. D., associate professor of bacteriology and immunology. Doctor Lamson has been in charge of the allergy clinic, Los Angeles County General Hospital, Unit No. 1, since 1928.

MEDICAL ECONOMICS

Hospital Costs.—The following article is taken from the San Francisco *Examiner* of January 20, 1930:

"The 'other side' of the hospital expense question was stressed yesterday by Dr. Howard H. Johnson, medical superintendent of St. Luke's Hospital, who takes issue with a statement of Dr. Will Mayo that patients in general are paying too much. Doctor Mayo's charge, presented before the meeting of the American College of Surgeons, stimulated nation-wide comment.

"Declaring the average bill per patient in the typical general hospital is reasonable, Doctor Johnson points to a study of one hundred bills in one hundred such institutions appearing in the current issue of the *Modern Hospital*. The average bill, he emphasizes, is shown to be 'less than what the average patient of moderate means spends for many of the luxuries that are so common today, yet no criticism is raised as to their cost.'

"'In the one hundred hospitals studied,' Doctor Johnson quotes, 'the average bill for the first ten thousand full-pay patients during the present fiscal year was $71.99, the average duration of stay per patient in fifty-two of these hospitals was 11.04 days, the average bed capacity of the hospitals 186, and their total bed capacity 18,586.'

"Hospitals in thirty-three states are embraced in the surgery, including four in California. Room, board and treatment (hospital care) are responsible for the largest share of the bill, roughly 70 per cent. Use of the operating room or delivery room is the next important item, being from 5 to 10 per cent of the total.

"That hospital privacy is costly is one of the conclusions drawn from the study. 'It is perhaps true that if general hospitals were not expected to provide comfortable and well furnished private rooms it would be possible for them to operate at a lower current cost and consequently reduce their charges. But comfort and privacy in the hospital are popular demands.' Patients throughout are getting value received, in the unanimous opinion of the institutions contributing to the survey."

The Physician's Income Tax.—In the January issue of CALIFORNIA AND WESTERN MEDICINE, page 67, was printed an article under this caption. Attention is now called to an article in the *Journal of the American Medical Association* of date of January 11, 1930, page 128, in which is given the information as printed in the January issue of CALIFORNIA AND WESTERN MEDICINE, plus new rulings which have come into play since 1929. The article referred to in the January 11, 1930 *Journal A. M. A.* should be a very handy reference for physicians, whether they make out their own reports or have an auditor or accountant do so.

An Example Which Explains Much Concerning "The Cost of Medical Care."—The following item was taken from the Los Angeles *Evening Express* of January 21, 1930. It is a reading notice, to which space was probably given as a return courtesy for an advertisement sent in by the particular radio firm. From the "Two Autos for Every Family" advertising slogan, we now shall possibly witness "A Radio Extension in Every Room" slogan repeatedly played up in the newspapers.

Little wonder, when illness comes, that thousands of lay citizens lack the financial means to pay for the services rendered by hospitals and doctors!

The item referred to above, reads as follows:

RADIO IN EVERY ROOM PREDICTED

"In 1910 the person who owned one automobile marked himself from the crowd as being a man of prosperity. Today there are more than twenty-two million passenger cars in this country and many families have two or sometimes three cars.

"In spite of the youth of the radio industry, a similar situation is slowly but surely coming about.

"It will probably be quite a number of years before every room in a house will be equipped with radio, but many homes have two receivers. Others, while they do not have more than one receiver, do have one or more extra loudspeakers connected with their set.

"The —— Company has made provision for these extra loudspeakers not only in connection with its table model receivers, but even in conjunction with its console models employing built-in reproducers. This unusual provision has opened a field of wider usefulness for the radio receiver. One can now get radio reception any place in the house desired, and does not need to be confined to the immediate vicinity of the set."

Letter in Correspondence Column.—Dr. J. M. Neil of Oakland has sent a letter to the Council, which is printed in the Correspondence column of this issue. Doctor Neil's discussion of some economic problems should be of interest to members of the California Medical Association.

CORRESPONDENCE *

Subject of Following Letter: Economic Interests of the Medical Profession

Oakland, California,
December 16, 1929.

The Editors,
California and Western Medicine:

It is gratifying to see that the California Medical Association is coming to a discussion of the economic problems of its members. For too many years we have made this vital phase of medical life taboo. Undoubtedly the bulk of the profession much prefers to look only at the humanitarian side of practice, but unfortunately, or fortunately, very few are financially able to be philanthropists. It is common sense then that we should have a commercial as well as a scientific organization, and this is a far cry from commercialization of medicine.

We are all cognizant of the dissatisfaction that exists among the laity with present-day medical costs, at the same time we know that a large part of this unrest results from faulty education. For the past few years numerous articles have appeared in lay magazines and newspapers setting forth the excessive costs of medical care. Any newspaper, usually without any consideration of the facts, feels free to tell its readers that the cost is excessive and that good medicine is beyond the pocketbook of the average wage-earner. This little formula has been so well sold to the public that most any patient will tell you that only two classes of society obtain first-class medical care: the very poor and the very rich. We who constitute the rank and file of the profession know that this criticism is unjust.

The same newspaper that promulgates these dogmas does not hesitate for one moment to tell that same wage-earner in large advertisements and accompanying news articles that radios are good values from $100 to $500; nor does it hesitate to point out that the set of last year is obsolete and should be traded in at one-twentieth of its previous sale price. How many physicians have ever seen any effort on the part of our sources of general information to give the public any idea of the monetary value of medical service; almost without exception such articles as appear are generalizations, and these decry the mounting costs of present-day medicine. There is no fair comparison, say, between the cost of an up-to-date radio at $300 and a major operation that saves a patient's life; nor is any effort made to point out the economic value of good health. One of the shortcomings of medical statistics is that it keeps no morbidity tables. Most any text on medicine gives in detail the mortality rates of any specific disease, but one looks in vain for any idea of the percentage of cripples that follow in its wake. It is easy to understand this situation because the physician's prime motive is to preserve life, and this has focused our attention on death. From an economic standpoint, the person who has ceased to exist is no longer an economic entity; but the cripple with 50 per cent efficiency is a vital factor in the human machine. It has been our shortcoming in the past that we have failed to stress such considerations. We have not made the public health-conscious, and in failing to do so we are faced in 1930 with a public having only a monetary standard of values and no corresponding valuations for medical services.

Nor is the public alone in this matter for, because of a scale of prices graduated to the patient's financial ability, each patient becomes for the physician an economic as well as a medical problem. But where is the physician to turn for information that will help him determine the real value of his services to his patient. How is he to know, except by chance conversation with other physicians, what moral support he can reasonably expect from the profession as a whole of any fee he may ask. Truly this is a peculiar state of affairs: under the code of ethics we are expected to be gentlemanly rivals of our brother practitioners, we are asked to conduct ourselves that we cast no reflection on the previous physician the patient employed, but as to the largest factor that the American public uses to gauge the value of anything, the factor of cost in dollars and cents, our present organization leaves us in a quandary. The importance of this lack of coördination in medical economics cannot be overestimated in the production of jealousy within the ranks of the profession; nor can the importance of the concomitant failure on the part of the profession to present a solid front to the public at large be overlooked in any analysis of the present urge for socialized medicine. Our inability to definitely answer for the individual the question of the worth of any medical service immediately puts us in an arbitrary position, the universal psychological response to which is antagonism. If we try to justify our position by explaining to the patient that such is the common practice, we get only pity for ourselves and a transference of the antagonism to the profession as a whole.

The present industrial accident situation is also making for unrest among the public. The fee the physician receives for this class of work is rapidly becoming a basis for comparison, and because it is a concrete monetary standard (again the dollars and cents!) patients in private practice are asking and those not asking are wondering, why it is a doctor can have one set of charges for individuals and another for a corporation. Initially those not doing this class of work felt they could ignore the situation, but we find only too soon that we cannot ignore any practice that puts us on an economically competitive basis with other licensed men. It is a factor making for centralized control of medicine, and soon we will recognize it as such. The answer that the physician is at liberty to show that his services are worth more than the scale, anticipates that he cannot afford the time or the money to prove his point; but even if he did it would not remove the existing psychology.

Other factors are rapidly preparing the public for lay control of medicine. Anyone reading the advertisements of the large insurance companies; anyone listening to the arguments of the insurance agents in behalf of health insurance; anyone thinking about the possibilities and the basic psychology of the periodic health examinations by insurance companies cannot but be struck with the underlying program. The public is gradually being taught to look to these organizations in health matters, and whether or no there is an ultimate intention on the part of these agencies to take over the control of medicine is beside the point that public support is being weaned away from the medical profession. In theory it is all right

* California and Western Medicine in printing letters in the Correspondence column does so without committing the California Medical Association or the journal to any issues that are discussed, and prints such communications without prejudice.

for us to maintain that we are not interested in material things; but as a matter of self-preservation we must be interested in power, and in 1929 power is represented by wealth. It is folly for us to even attempt to maintain that we can make scientific progress; each case offers its own peculiar problem and its own opportunity for generalization.

In the December issue of CALIFORNIA AND WESTERN MEDICINE is an article on the achievements of the Rockefeller Institute, all made possible only because of the wealth of that agency. If medicine is to give to coming generations all that it is possible for medicine to give, then it must remain in the hands of the medical men, and not become the tool of some private group. Medicine stands today alone as the one remaining vestige of a government built on individual effort and ideals, but economic coördination is vital if we are to maintain control of our heritage. Each and every time we have conceded to some political group functions that the individual at one time carried out, just so often has medicine lost and the politicians been presented with another source of patronage. Each year the sphere of the private doctor becomes smaller, not because our usefulness for scientific application is less, for we have more to offer now than ever before, but because our economic control of our charity puts the private doctor in the untenable position of being in competition with charitable institutions, with an ever increasing general educational program that justifies the patient in seeking free medical care.

This is not a criticism of our social service agencies, but it is a realization of our lack of appreciation of the public psychology. If there were only one method of entrance of patients into such institutions, that of recommendation of the patient's own physician, we would create in the public a moral obligation to the professions and not a political organization for some political climber who is willing to sell not alone his integrity but our charitable impulse to further his ambitions. I am sure that the statement may be safely made that the man practicing under the present system who has not had public institutions take away patients who are able to meet their obligations were they willing to sacrifice the radio or some other nonessential is the exception; and the man who has not had other patients much better fixed financially, receive care because of political pull has not been in practice very long.

Socialized medicine may come, and if it does come it will be because we have refused to effect an economic organization. If it comes under present existing political conditions it will be a failure, as it has been elsewhere, because no socialized system can function side by side with an economic system founded on the predatory instinct. Medicine faces a crisis, but in that crisis is opportunity, opportunity for socialization of medicine within itself, opportunity for service not alone to the human, but opportunity for service to the body politic. Any program to forestall political control of medicine must be grounded on an economic basis, must put back into the hands of the men most vitally interested in medicine the control of medicine, must be thoroughly socialized within itself, with safeguards to guarantee professional and economic independence.

Yours truly,
J. M. NEIL, M. D.

Subject of Following Letter: Federal Laws Regarding Pilot Licenses in Aeronautics

Department of Commerce
Aeronautics Branch
Washington

December 21, 1929.

The Editors,
California and Western Medicine:

The attached resolutions were passed by the American Medical Association at its stated assembly held at Portland, Oregon, in July, 1929. It is believed that these resolutions are of sufficient interest, in view of the rapidly increasing number of physicians designated as medical examiners, to warrant publication in your journal.

You may be interested to know that all applicants for federal pilot licenses, either for flying or for training as pilots, must pass physical examinations before physicians designated by the Secretary of Commerce. They must likewise be reëxamined periodically. These examinations cover a rather detailed examination of the eyes, a brief examination of the ears, nose and throat, equilibrium, a general physical examination, and a detailed examination of the nervous system. There are now about seven hundred and fifty medical examiners so designated throughout the country. All these examinations are reviewed in Washington, where the applicant is finally certified as qualified or disqualified for the grade for which he has applied.

Very truly yours,
L. H. BAUER, M. D.
Medical Director.

* * *

Whereas, The Aeronautics Branch, Department of Commerce, has organized a medical service for the physical examinations of civil pilots and prospective pilots, in the interests of safety; and

Whereas, The physical standards adopted are in keeping with those adopted universally, and have reduced aircraft accidents from physical causes to a minimum; and

Whereas, The department has required these examinations to be made only by designated physicians in the interest of uniformity and control and in accordance with the custom adopted for the Army and Navy and in other countries; and

Whereas, The selection of examining physicians by the department has been based on training as flight surgeons or its equivalent, or on group examinations by specialists, a high standard of examination has resulted; and

Whereas, The department requires that all examiners hold the degree of Doctor of Medicine, be licensed to practice medicine under the laws of their respective states, and further requires that the appointees be recognized as ethical practitioners in their respective localities, thereby supporting the high standards advocated by this association, be it

Resolved, That the American Medical Association at its stated assembly in 1929 endorses the medical work of the Department of Commerce, its methods of physical examination and its method of selection of medical examiners, and urges that the same high standards be continued and offers the support of the American Medical Association in furthering the specialty of aviation medicine; and be it further

Resolved, That a copy of this resolution be sent to the President of the United States, the Secretary of Commerce, and the secretary of each state medical society.

DESCARTES WAS RIGHT*

By HARRY M. HALL, M. D.
Wheeling, W. Va.

If ever the human race is raised to its highest practicable level intellectually, morally and physically, the science of medicine will perform that service.—RENÉ DESCARTES.

René Descartes, the French philosopher, was born in 1596 and died in 1650. Copernicus, Vesalius, and Chamberlen, the discoverer of obstetrical forceps, flourished about the same period. The great names of that era were a brilliant galaxy, destined for deathless fame, but it is doubtful if Descartes looked out on an impressive medical profession. It is quite impossi-

* This is a paper which was read at the annual conference of secretaries and editors of constituent state medical associations held at Chicago, November 15-16, 1929, and printed in the American Medical Association Bulletin.

ble to get at the animadversions of the modern medical mind without awarding a hasty glance at the past. Medicine certainly had moments in its other days reeking with sordid discouragement, shocking oppression and insistent persecution. But like the Jewish race and its Bible, it managed in some way or other—milling, struggling, suffering, triumphing, bleeding, pleading and dying often in martyrdom—to continuously develop the foundation on which it rests today. Its practitioners had to face vulgar, unspeakable quackery; absurd antics of sinister nondescripts; death for asserting the truth; crassness; idolatry; charms; amulets; absurd superstitions. If they succeeded, little reward followed; if they failed, torture and death. They pursued their profession, forced to mingle with toothless hags, itinerant barbers, withered soothsayers and vehement fakers. Had they a passion for anatomy, they must work in a cellar, fearful of detection. Had they a love for the truth and were men of distinction, they must needs face their king—and the axe and the block was the reward for defending the fact that the heart beat and the blood circulated. What courageous men they were! What a fine faith! It should be enough to make us ashamed of our timorous actions, our wavering ideals. We look back casually and commiserate with them. Ah, it is here we make our mistake. Allow for relativity in time and place, natural improvement of all civilization, the intervening years, discoveries, inventions and the like, and it is rather doubtful that we have any room for commiseration.

To take the fearful healer of the day of Descartes and compare him with the opulent doctor of today riding in his automobile to a magnificent hospital seems not only rather grotesque but absurd. Measured in terms of comfort, standardized living and ease of carrying on the medical artfulness, it may be ridiculous. Man does not live by bread alone and, as we shall see, other trials no less disturbing hover over the modern doctor. These very comforts might be said to be the potions that fill the physician of 1930 with a sense of security he does not possess. In 1650 he well knew the trials of the hour. When it comes to certain problems that serve to perplex the medical practitioner of today, concerning his status among his fellow men, making of him either an individual or a member of a herd; endowing him with a certain self-respect or else assigning him as a mere cog in a great paternalism, describing him as a man or something akin to an industrial parasite, it is hard to believe that we are, just now, allowing for natural progress, any better off than we were then. The great determining factor then was to keep one's head on one's shoulders. Today it is to keep one's individuality and self-respect together. One is just as priceless as the other. That is why the Boston Tea Party was organized and, as I take it, why we are here today discussing this subject in the manner we are. We are not here for idle criticism nor for captious carping. We are here to face the facts.

If we speak the truth here, censure concomitantly will follow, but it will be as nothing compared to the realization that we have these adversities with us to write about at all. The path of the essayist who would attempt to find the real causes of medical unrest is not an easy one. Perhaps he may be accused of bitterness; perhaps he may wound his friends; perhaps he may seem almost to bite the hand that has befriended him. That, I think, is why so little real progress has been made. Reluctance and distaste, some fear and not a little terror seize a writer as he meets in the beginning so much that is forbidding. The only comfort one can gather is to include himself at once in all the delinquencies as one who has been laggard with the rest.

Every editor and secretary here has doubtless experienced these sorrows as he has done his best to herald the clouds that appear to him as darkening the horizon of medicine. He has recoiled too with some distress and quite a little discouragement as he has seen the continuous and deliberate disregard with which it was all met. Let him recall that there are people filled with want and distress who spend their last dollar at the movies in the attempt to have their minds distracted from the misery at hand. They all have hopes that on the morrow a job will appear. Just so there are many doctors running hither and thither up and down the country attending medical conventions, where they listen to well-spun theories as to how the gall bladder is infected, who do so to escape the grave economic and social problems which beset their professional lives at home and which have become so intolerable that they must seek surcease elsewhere in the vain hope they will hear unexpectedly some panacea for their woes. To their surprise every subject and every disease is touched on save this one, which is by far more important in this day and hour than all else. To most of us, trained in scientific methods as we are, revivalistic methods are abhorrent. Yet we would that out of all of our glossy self-confidence and hardened technical perfection, a figure with the great voice of a Napoleon, the compassion of a Lincoln, and the gentle persuasiveness of Jesus Christ might appear to lead us out of our lethargy—our supreme illusion that "all is well."

THE JAZZ AGE

What is the cause, if any, of this calloused indifference on the part of so many medical men? Today throughout the country there is a situation which, for want of a better name, I shall call a syndrome. Some of its characteristics are a waning faith in religion with nothing apparent to take its place; synthetic friendliness by way of service clubs; cynical disbelief in ideals as a form of flabby idolatry; substitution of planes and cylindroids for beauty; a gradual elimination of the older idea of the American home; translation of the former conception of love into frank terms of animal passion; complete breakdown of the ancient beliefs as to marriage and making it probationary by way of the divorce court; a denial that there is much in human relationship that is permanent, and that therefore personal contact is more or less a matter of transient importance; living from day to day, forgetting yesterday and thinking not at all of tomorrow until it comes; seizing on what is offered with little or no examination of the probable insidious sources from whence it comes. Synchronized sensation is regarded as more important than a sense of responsibility. Finally, this is a mechanized age, and as machines have no conscience there is no particular necessity for those who operate them to have any either. All this is assembled, so to speak, thrown together and referred to as the "Jazz Age." Into this scene is thrown the modern doctor. We might paraphrase here, the old oft-quoted lines of Pope.

> Jazz is a figure of so repellant a mien,
> As oft to be ignored; needs but to be seen.
> But seen too oft, familiar with her face,
> We first pity; then endure; then embrace.

Nearly every tradition of the physician is opposed to the syndrome of which I have spoken. He is by nature and education set against the credo of the senses. His calling directly involves ideals, faith, hope and responsibility. He has carried on a certain belief of Hippocrates, who antedated Christ and whose oath slipped by the low estate of doctors in the days of Descartes and has come down more or less triumphant until yesterday serving physicians as their rules of ethical conduct. The profession of medicine by means of its ethics, imperfect and openly violated as they are, has built up a science and art as orderly as the progressive and complete one of nature in causing the chromasomes to flower into a human being. Suddenly, the syndrome appears, making its impress on all contemporary life. Old rules no longer hold in many things. The staid medical man finds life about him jumping over the stroma like a lot of cancerous cells, and development and progress a matter of carcinomatous revelry. The portraits of a Rembrandt are replaced by silly daubs that resembled

those you made on scratch books at school. Music of the immortals is transposed into nonsensical theme songs that savor of idiocy.

What has the medical man to do with a Jazz Age? He cannot ignore it any more than the doctor of 1650 could shut the door in the face of a royal order. Some there are who will hide in the cellar or die before they acknowledge its presence. But for most of us, there it is. To many, the Jazz Age applies to a wild dancing, singing, night club existence. The syndrome I have related has no such connection. It applies to the life we all are living. So the syndrome has worked its way into the conduct of many a medical man, to the end that it has quite upset his outlook.

The best example I can give is that of the brilliant and well educated opportunist who has multiplied many times in our midst the last few years. A quick survey of him is as follows. He says he must take any good contract if offered, regardless. He will affiliate with the schemes of a merchant prince if it gives him a little brief authority and, if necessary, give the kiss of Judas to his profession. Flippantly, he remarks that the oath of Hippocrates has gone the way of corsets and that every man of preferment splits fees as a necessity and that ethics, the golden rule, and the idea of fair play are like Jupiter, Venus, Tannhauser, and the Valkyries—worn-out myths; that the idea of a gentleman's agreement is like hell—spoken of but not believed in; that none of these ever got you a seat in the subway, a following of politicians, a lucrative position, or any worthwhile rewards. He feels the officers of his medical societies "play him for a sucker" to use the classic words of Texas Guinan, so why heed them? He attends a medical meeting now and then on the way to some other engagement, but as he is practicing surgery because internal medicine does not pay well, he will walk out immediately unless a surgical topic is being discussed. To do him justice, he is clever, brilliant, well educated, and dexterous, and he carries through his operative work with a certain rather elegant poise, arrogant assumption, and superb finish. His cures are not spurious and are exceptionally definite. From month to month and by way of carefully planned advertising, he gains a great reputation and rides the crest of the wave. He becomes an Al Jolson in surgery. Bye and bye personality is substituted for science in his attitude toward his patients. He comes to believe it is solely on his own merits and not by way of any medical organization that he has reached where he is, so he assumes a tolerant air to all that pertains to medical solidarity. What does he need with anything outside of himself? He takes on any contract, gives testimonials for any product, commits any breach of etiquette, ridicules any of his contemporaries, and in a good-natured way says, "Well, what are you going to do about it? My clientele won't let you do very much." He has become the superman. He proudly states he is "hard-boiled" to all that medical ethics business and has come to where he is, despite it, because he gave people the kind of medical service they wanted. I shall not go into how this gentleman has paid except to say that he is hard and brittle.

I fancy you all recognize this type. He is in almost every town and city. You must always acknowledge that his work is good unless he becomes too intoxicated with himself and becomes careless. Doubtless he is superb, brilliant, a credit to the science he is following. In social life, he is known as a "corking good fellow." All he lacks is the spirit that Descartes indicated would make us the saviors of humanity. And just because he lacks it and it is so all important, I believe this type of man is directly responsible for a lot that besets us. I in no sense begrudge him his success. Such a man could have been equally successful by living according to rules and the ethics of his profession. It is the bad example he sets to others that I object to. A colleague battling along, trying to observe the finer graces, and keeping his obligations to his contemporaries, faced with such illuminated competition, is not likely to adhere to the perhaps slower method. He debates on going and doing likewise, and he usually does. So the idea has spread until it is now a well recognized and prosperous schism. Interns in the hospitals compare the quick results obtained by the visiting men who affect such views, and it can be easily seen which road they ultimately take. So I reiterate that this ever increasing type of man is the instigator of a great deal of the present situation.

THE CROWD

Years ago, Gustave Le Bon wrote a small classic called "The Crowd," a study of the popular mind, in which he held that a crowd cannot be compared to the individuals that make it possible; that the mean average is probably of little value, as the new character of a crowd takes on new features and the new average is below that of the mean. One learns from Le Bon that a wide chasm may separate a great surgeon from an orderly and yet, as to character, the more lowly one may be the better of the two; that men seem to take to the primitive in the mass; and that crowds may be composed of units spread out over a wide territory held together by a common emotion. All this helps in trying to understand medical assemblages. Doctors in their home environment may be individually men of great judgment and keen to see the dangers of the future. When brought together in the mass, however, they seem to take on rather childlike qualities as may be seen by their restlessness, tendencies to run in and out, irritation over some mechanical error, and above all their opposition to an address pointing out to them the weaknesses in their nonprofessional outlook. Under the spell of a celebrated speaker or a well known personage, I can think of no audience more quickly led than that of a group of medical men. This was illustrated the other day at Detroit when the powers of the Interstate Postgraduate Assembly conferred on Henry Ford the honorary title of Doctor before an audience of nearly five thousand physicians. The crowd went wild and clapped its hands and shouted in childish enthusiasm. Mr. Ford stood smiling amidst a number of celebrated medical men while Doctor Deaver, his picturesque personality all aglow, delivered the bestowal address. The industrialist said not a word, but bowed and retired from the scene, as a mighty roar of approval followed. This idea is covered in Gustave Le Bon's book. Had any member, prominent or obscure, of that august gathering arisen and told this shouting crowd that they were about to award a great honor to one who had lately criticized their whole profession rather harshly in a series of syndicated articles, written on decidedly slender knowledge, and that in Detroit he had built a hospital to controvert directly the medical profession's idea of how a hospital should be run and that in the medical fraternity in his city there was more than one doctor who felt decidedly hostile to his attitude—that member would have been summarily dealt with.

Mr. Ford is a great inventor who made a good car that has carried many a doctor efficiently to his destination. I doubt if Mr. Ford ever constructed his car as a benevolent gesture. But I should like to ask if Behring would not have been a millionaire if he had patented diphtheria serum? Would not Roentgen have been more of a Croesus than Ford if he had received $20 on all x-ray outfits and a royalty on the plates? Where would the man be who invented the vaginal speculum if he had patented it? What about Banting and a cent on every unit of insulin? Any one of these men could be where Ford is if he had said he chose to run that way. Always we overlook our own great discoverers.

It may be that we are rewarded in heaven for turning the right cheek when the left has been slapped, but to me the performance in the Ford case is merely an instance of playing the sycophant and has no merit. This brings me up to why we, as a profession,

are so prone to do this. Let us once more go back to the past. I have reminded you of our precarious situation in the times of Descartes. Hippocrates and Galen may have been veritable mountain peaks in history, but the dark succeeding periods saw us consorting with barbers on about an equal footing. Always, however, we had to depend on royalty or the rich and powerful for any advancement. In savage tribes, even the medicine man has to seek the favor of his chief. Always, as no other men have had to do, we have dealt with death. Since time began death is by far the greatest tragedy, and always the fighting of death has been our vocation. The demise of a king or the exodus of a rich man has no elements of triviality about it to the populace. When death occurs, the doctor's, whether deserving of it or not, has been the only tangible head on which blame could be lowered. Oftentimes, in many scenes the medical adviser has paid with his life. Doctors, like women, in the past had to learn to be subtle, shrewd, and in the end something of the sycophant in order to carry on. We have never really gotten over it. It has become a sort of hereditary matter which we feel, as men in general hate the reptiles, because their antecedents, the apes, feared the serpents. In the dim distant past, if we moved too rapidly, some ignorant yet powerful segment of the population saw to it we were halted and punished, so we learned to respect and fear authority, power and money. It is true the doctor along with the court fool rose to positions of great power. But then the day came when the doctor told the king he had a four plus Wassermann reaction in terms of the *grand mal*. The jester joked about it. The next day saw them both on the way to the guillotine.

If we have the courage to brush subterfuge aside and look at things squarely as they are, we will see we are exactly in the same position today, allowing only that humanity has sickened of the scaffold. There are two ways of being afraid of power and authority. The old way was fear of your life. The new way is fear for your position and self-respect and, in some places, your livelihood. None of us can be said to live in any abject terror of anything perhaps, but close analysis will reveal almost all medical men exist with some sword of Damocles over them. I believe every medical man should acquire all of this world's goods he can. None of them will ever acquire a vast sum at his profession alone. It cannot be done. I could scarcely do other than wish to every other man the attainment of all the great wealth he can honestly assemble. The great evil is that when some men acquire great wealth they feel it incumbent on them to try to direct and to influence great forces and organizations which essentially lie quite outside and beyond their knowledge, and certainly outside any such offices to control. Especially is this pernicious when it is extended into some technical or scientific realm where the disturbing factor cannot possibly have the necessary intelligence or education to comprehend peculiar and highly specialized responsibilities which have been slowly acquired through the ages and at the high cost of experience and study. To do so strikes me as utterly indefensible, wholly uncalled for, gratuitously insulting and designed ultimately to interfere with the orderly and natural progress of the given scientific activity and to contribute greatly to a destruction of its morale. Men are either leaders or are among the led. There are not many leaders. The medical profession especially has a penchant for the abject worship of great names and leaders. Now wealth and power have developed many master minds, and in industry they are allowed to become well-nigh invincible.

INDUSTRY AND WEALTH VS. MEDICINE

Life, it seems, has settled down into a strenuous contest between large groups, pretentious mergers, great communities and power in the mass. Industry and wealth has seen fit to pit its master minds against those of medicine. It is like a duel between two courageous men where one is a skilled swordsman and the other has nothing save his valor. In many instances medicine has come out with nothing left but its life. So we mostly stand aside when a battle is imminent. The country doctor feels the authority of the small town banker. The general practitioner in the city is glad to join the Rotary Club. The specialist endeavors to placate the merchant to keep him from seeking advice in the metropolis. The great surgeon who should have no peer, boasts his trivial confidences with well known men of power. The head of a great group or clinic makes peasant-like obeisance in the hope of getting the millionaire to make an endowment that shall see his plant end in a big foundation. The instances could be multiplied. Medicine never had any real reason to bow to anybody. It never has, scientifically and as an art. We have carried the complex, hidden mysteries of a forbidding, tragic misdirection of evolution (if such it actually is) to as great a height as human experience could warrant. We can never be assailed for not making ten more talents out of the ten that were given us. Where we erred, from the beginning on, was in not realizing if we were to fulfill our destiny that there is more to medicine than just medicine. To have come to our fullest efficiency we should have conceived that there was a side to us that was in no sense medical. The steel corporation is not in any manner devoted entirely to the fabrication of steel. Utilities are not concerned wholly with the making of light and power. Coal companies are more than just developers of coal. They have other things to consider, one of which is medical attention to their employees. Their best minds are centered on organization, expansion and executive work for their enlargement and making them more or less impregnable—in short, monopolies.

We went along confining ourselves to one thing—curing disease. We had an organization—nay many of them—but they too were ordered to think of nothing outside of healing disease and increasing research. In an ideal world this would no doubt be the better way. But it is not an ideal world and human nature is what it is. Business and industry suddenly discovered it needed medicine. Heretofore it had paid little attention to it, regarding it as a personal matter. They saw health as the very keystone of the arch of all existence. No canal could be built where yellow fever raged, no steel mill was efficient when an epidemic kept half the men at home. Injured men were a big liability. People could not buy if harassed by illness. A king was not a king with a pleuritic effusion. No prospecting expedition could go forth without a medical adviser. A captain of industry was useless if agonized with a kidney stone. Great wealth and business found it had one enemy which was heedless of its power. They could not control it. So they set about to control the agency that came nearest to controlling disease—that was medicine. They had found the law receptive and the ministry weak. So industry met medicine on the highway of humanity, and the outcome does not need recital. Hospitals, medical colleges, research laboratories are today controlled not by medical men, but by trustees and boards of wealthy laymen. By way of contracts, supervision is had over the manner of administration that hundreds of doctors perform. I could go on giving many more instances, but the time at my disposal forbids. The present gesture is that men of vast wealth shall spend their declining years pointing out to us our delinquencies, lecturing us on our frailties and essaying to make us over to their heart's desire.

They speak to us of philanthropy—we that can be almost said to have invented it. They prate to us of social uplift. The only practical uplift today is by way of medicine. Our coöperation alone has made all social work possible. So far other uplift work has been more or less of a failure. No scheme to reform criminals is effective, for crime is on the increase. No missionary work in foreign countries has made much progress for religion except in the places where hospitals have been included. The hospitals alone have

made the natives better off and have been successful. Half the prestige our country bears in other climes is through the hospitals we have bestowed on them.

Henry Ford and Julius Rosenwald and many others may hold us up to scorn because commerce and invention—not highly original occupations—have seemed to pick them out as oracles. Yet both would resent being told by prominent medical men that the one had made several bungling engineering feats he had to do over and once on the witness stand had to deny knowledge of articles that practically bore his name, whereas the other has economically driven untold small town merchants out of business apparently without any thought of what was going to become of them. It seems to me that some large institution should be provided for these men having no occupation—business care at a lower cost—giving some idea of what they were to do next might be a fine piece of benevolence.

I regret to take up so much time with this sort of observation, but it seems to me that it is all done for a purpose—not as whimsical criticism or as mere talk, but as something in the nature of a threat. For hospitals and institutions are built which are placed in competition with those we happen to frequent, in order to bring us to terms. We are told in so many words, either to begin to think in their terms or we will be forced to do it. That we have lost control of the agencies through which we accomplish what we do is largely our own fault. Had we stepped in and included executive, organizing, economic features into our calling as the great industries have appropriated medicine into theirs, we would now be perhaps the most powerful single group on the face of the earth. We hesitated; when we did come to adopt them in part it was too late. Had we singled out highly capable men from our ranks, picking them out as does Standard Oil for their proficiencies and then set them in the high places to do their utmost to make us the greatest human instrument for good the world affords, we would today be realizing to the fullest the prophecy of Descartes. We would control health—therefore everything. They might call us a monopoly and a trust. I wish they could speak the truth when they said it. The burden of our song is that we are not. Our loose business methods, our promiscuous giving away of our services, our failure to effect complete solidarity, our lack of vested authority at the top has lost us the control of the places we work in, some of the selection of conditions under which we heal, and a great deal of prestige. We still control some of our future, and one of the reasons why we are here today is to talk over conserving what we still possess. We all think, I feel sure, that we can render just as good service to business outside of its control as under it. We cannot be classed in as skilled labor and dictated to as artisans are proscribed and then be expected to make the new discoveries and progress that is our heritage. We are not that kind of men, and most of us will never be. The hidden reserve of accumulated experience that is in us all needs special handling to do its best, and any attempt to dominate it as so much potential motion to be handled at will must end in disaster to all concerned.

The question arises, "Is it too late to go back to complete control?" It probably is too late. But the only way to find out is to investigate and see. There are no instruments of precision in such a case. There is a lot of buried, latent fight in every doctor—even in those who are under contract. Constant waging of war against disease puts some combativeness in every medical man. Physicians and surgeons are as universally intelligent to a certain degree as any other group of men in the world today. According to Gustave Le Bon, all they need is a common emotion to make them into one big mass which might be bent on a primitive lynching of a negro, or on a grand and noble accomplishment like saving the honor and dignity of the medical profession. Let every doctor then have the possible outcome brought home to him—and the possible outcome is always to be considered as state medicine. Let us weld ourselves into a big corporation, with a head after the fashion of Mussolini but without his defects, heedless of those who cry that the people will not tolerate it. That the people are against us is somewhat of a fiction. They care not so long as we give the service. Explain to no one, realizing that explaining is a weakness if carried too far and recalling the old statement that our enemies will not believe in us whatever we do, while our friends need no explanation. There are many of us who are in for placing our heads in the yoke and accepting the whole thing as economically evolutionary. These men argue that the laymen run the hospitals better than we do. They would accept $500 under contract rather than a probable $1000 they would not get. We shall never realize the prediction of Descartes by so doing, and it should be our aim to fulfill that destiny.

A few men control industry, so a few men will eventually control medicine if we meekly submit. It is scarcely likely without an upheaval that these few men would ever try to be despotic, but one of them could easily launch on a sea of propaganda against us with very distressing results. With a fancy that he had been cured by a faker or an irregular of some kind, he might feel we ought to include the system in our own. Refusal might mean displeasure, and from such small acorns mighty oaks do grow. It is therefore the better way for humanity in general that we keep the supervision of our own affairs.

To illustrate, in West Virginia contract practice is quite common, running in localities from 25 to 50 per cent. I offer no criticism of the corporations. They are out to obtain everything as cheaply as possible. The fault if any is that the organization of doctors in the state should have prevented it if they could and felt that it was dangerous. But they did not, so the responsibility is entirely on the doctors themselves. It seems apparent that part of the medical profession in West Virginia approves of contract practice, and it is probable that this is a fact. Its effect on the general profession has not been thought to be very important. Good salaries were originally offered and no doubt accepted with alacrity by the great and the near great. Opportunity awaited and was swallowed as a fish accepts its bait. This did not matter so long as contract surgeons were in the minority, but when it reached a strong minority something happened. I feel that the same drama is being enacted in some fashion in every other state. As West Virginia is largely an industrial state, it happened to be more easily observed. The corporations felt that they could now handle matters with more decision. The inevitable happened. When a steel corporation or a coal company falls below their dividend requirements, as they see them, retrenchment speedily follows. Wages of the workers are cut and if not accepted a strike or quitting are the only recourses. The contract doctor did not count on this to any extent. He simply felt he would not be included. I shall give three examples to show that he was mistaken. A young intern, on completing his service, found himself comfortably placed in the employ of a coal company at a check-off salary of $900 a month. Not so bad for a fledgling! Some time later he was visited by an official of the company who promptly told him he could accept a cut of $600 a month or quit. He was assured a candidate for his place could immediately be secured for $300. Another older physician who had served some years received, if I recall correctly, $1.25 as a check-off for each married employee and $1 for each single one. He was told business was not so good and he accepted $1 and $0.75. In both cases he received fees in addition under the Workman's Compensation Act. He was next informed he must accept $0.90 and $0.60, give the company the fees or resign. They informed him they could easily get a substitute. A third company secured a so-called medical director. He was instructed to tell all the medical attendants to accept

$250 a month or resign. They could easily replace them.

If all this differs in any way from strike-breaking, I cannot see it. Contract practice, as I said, is held to be by many as impossible of correction. Many believe it is an evolutionary matter, purely economical, and that it is the only solution of a difficult question. They argue that this is a machine age, and a machine knows neither freedom nor liberty. No less a person than Mussolini says both liberty and freedom are, in the last analysis, pernicious; that a republic is absurd and a democracy farcical and that they will not live because, in the main, people do not know how to accept them, being made to be led. Contract, group, community practice and state medicine all follow this principle in that they mean subservience of the several to a head or heads, who must necessarily assume some autocratic power. Of course, any doctor can quit at any time, but where will he go?

If, then, this idea of Mussolini is right—which is to say democracy is a failure—let us scrap all our ideals of the past, admit they are wrong, resign ourselves to the order of things and make the best of it. But if we do not agree with it, let us start a campaign of medical education with more force than any of the past attempts, assuring even the contract men that the next step the corporations will take is to shed their responsibility for medical care over on to the taxpayers and then, to be sure, we will have state medicine.

Some of our more celebrated colleagues who have reached places of safety at the head of something or other or who have amassed a fortune, usually by some route extraneous to medicine, shake their heads rather mournfully and say we are headed for state medicine. And, of course, we will be if we listen to them or follow their gloomy forebodings. If you believe literally that the meek shall inherit the earth, then the only consistent thing to do is to kneel down like the lamb to the slaughter. If you believe with Roosevelt that "Aggressive fighting for the Right is the noblest sport the world affords," there never will be state medicine.

CONSIDERATION OF HIGH COST OF MEDICAL CARE

Because we deal with people only in times of stress and trouble—in other words, while they are ill—our sympathies are appealed to and we have been tricked into many false positions. The giving away of our services was one of them. The analysis cannot here be given, but it can be shown that the responsibility for the care of the indigent is a responsibility of the remainder of humanity, and if we ever had any part in the matter, it is only our fractional part as a section of the population. But we have always had it all. By translating our services in the past into some heavenly abstract administrations, we steadily protested against the idea that medicine was a high-class scientific commodity to be sold as is law, engineering, education and every other human endeavor, and we made a mistake. We have had to reverse ourselves and come to that view anyway, and in doing so the public has been slow to understand us and we have been dubbed as "getting commercial." Our education was commercial. Our instruments and paraphernalia are commercial. All that we buy is commercial. Whatever we come in contact with is commercial. Why should we not long ago have come to the realization that we had "an opinion and its placing into practical application" to sell and act accordingly? The clergy have sold their "birth and death services" since time immemorial; no one thought the worse of them. It is true they will donate them at times, but there are exceptions where almost everything is found to be given away. Had we always charged for our services and had no systematized free services, no one would have ever heard of reducing the cost of medical care, for a way would have been found to have the poor's ministrations paid for by funds which would have also compensated the doctor.

The average cost of a bed in hospitals ranges from $4 to $6 a day. Those unable to pay at all make this rate as high as it is. Who is it responsible for the poor? Certainly not the doctors. The medical profession had nothing to do with their poverty. It is the economics and chaotic living conditions of the outside world. But you will find the doctor has to answer for them when ill as if he were responsible for them. They cannot obtain a livelihood, so are not sheltered, fed or clothed. They, therefore, through lack of resistance fall a prey to disease. No contractor gave them a house. No chain store gave them food. No mail-order house gave them clothing. No automobile dealer gave them an old car to obtain a little fresh air. No statesman worked out a solution for their maintenance with self-respect. No politician gave their plight a real thought. Mergers, combines, and chain stores threw some of them out of employment. It was too late to get anything else. Flotsam and jetsam. What will be done with them? Shoulder them on a hospital and let the doctors do what they can, but how? Free, of course. Up go hospital rates. Then critics dispose of us in sarcastic terms about the high cost of medical care. We think we have no part at all in the high cost of medical care. The outside world is responsible socially for the predicament of the poor. Particularly are the legislative bodies and the systems of commerce responsible. We need no elaborate figures or investigations or surveys to tell us that few doctors receive handsome incomes from their vocation. Outstanding surgeons possessed of great skill in some particular line may make big fees. The others do not, and there are men in the United States survey who know this even better than we do. Had we collected our accounts and had no promiscuous free service no one would have heard of the high cost of medical care. Our philanthropy was really the cause of our undoing.

(To be continued in March issue.)

SERIO-LIGHTER VEIN

"BITER BIT"

Close-up of a Doctor on—Not at—the Table

By WILLIAM H. BRADDOCK, M. D.
Jarbidge, Nevada

"Now, you'll feel this prick, and after that you'll feel nothing."

Uh-huh. I've used that formula myself, and always had a doubt of it, unless one was meticulous about keeping the needle within the infiltrated area. There, I thought so. Every single sting is perceptible. Poor technique, to tell—ah, misstatements, to the victim. He wonders—like me, right now—if the surgeon knows his business, after all.

That must be the knife—ouch! "Feel that, old man?" A dull jab, then the knife again; skin, superficial fascia, superficial layer of deep fascia—yes, the assistant is pulling something, retracting the muscle, doubtless. Quick work. It hasn't hurt particularly, so far, but it's kind of a general strain; hope he won't be long—would hate to have my nerve give way.

"Now, this may hurt a trifle."

"Go ahead. What is it?"

"Outer layer of the muscle fascia."

Humph! Hasn't begun yet. Why the hell is he so slow about it? Nerve's liable to wear out if he takes too long. Wish a fellow could watch this; could be worked, with a large mirror, and leaving the eyes uncovered. Still, one feels drowsy, and a little dissociated after that morph; just as well lie quiet, and suck that iced gauze that the nurse, or anesthetist, or whatever she is, wipes on the lips. Mighty refreshing. Ugh! That'll be the muscle sheath. Feel nothing more, huh? Wish he'd hurry—would hate to break down and snivel— 'Tisn't the pain, exactly, for it doesn't hurt much; must be the suspense, and

the cold-bloodedness of it all, waiting for him to hurt you.

That's the real muscle retraction, no mistaking it. Deep layer and peritoneum next, but first, of course, he'll fiddle around, tieing off and so forth. Ouch! That one hurt, whatever it was.

Funny how I'm feeling now. No particular pain, but every last fiber of me seems aware that something unusual and alarming is happening to me, and is more than a little worried about it—

"Do you know where I am now?"

"Nope, lost track altogether." He must be in the belly somewhere, but you can't prove it by me. There are no particular conscious sensations, except that they are working somewhere in my appendical area, but I'm tense all over. Not the muscles; they seem relaxed enough. Its a sort of general somatic anxiety, about something desperate and dangerous going on inside me; something like a building with all the burglar and fire alarms going full tilt, all through it, but the bells ringing silently. It's hard to explain; consciously, I know what is going on, in a general sort of way, and also I am aware that my unconsciousness, or subconsciousness, is full of feelings, which are probably unpleasant. Hope they don't burst through into my consciousness; would hate to have my nerve give out and disgrace me.

"Now just a moment. I want to see exactly how things lie in here."

Oh, damn his scientific soul! "Take your time; I'm all right." Try to be a good guinea-pig, since I must be one. Ugh, he must be pesticating around inside, dragging on things. No pain, but that general sensation of nervous discharges throughout the body is getting stronger and stronger; if it were electricity, I'd prickle all over.

Ow, that hurt! In the umbilicus. Felt exactly as if he were hauling on the falciform ligament, trying to drag my navel into the belly by its roots. But the falciform ligament goes to the liver somewhere doesn't it? There's some hurting in the general appendical region, too.

"Having an attack now?"

"Absolutely—and it hurts." An attack is just exactly what it is, and it would be eased a lot if I could only pass the gas.

"Well, I guess our diagnosis was right."

Oh, damn your diagnosis, and you too! Get along, man, and get done! My nerve is going to give out in a minute—

"If you'd just give me—a little—rest." Hell, if I can't talk straight, better shut up!

"Sure, we'll give you a rest."

Gosh, ain't it a grand and a glorious feeling! Just about here is where that fellow who tried to take out his own appendix must have had to quit. Have a notion I could have gotten down through the peritoneum, if I'd had to, but no further. Think of the technical difficulties of locating the thing, lying on your back like this; especially if it were buried somewhere. There they go again, hauling on the mesentery or something—it hurts! Don't believe anybody could haul on his own like that—hurts too much—leastways, I couldn't—it's hurting more and more, real sensible pain, and I don't believe I can stand much more—

"Ugrrh-rrh!" There, damn it, I knew my nerve would go! I'm feeling queer—sort of floating—things getting distant—this must be what shock feels like, a sort of refuge from too much pain. But my nerve isn't going to give out, thank God, for now I know that I know how to faint, if need be. They're still pulling on that mesentery, but not so hard, and it doesn't seem to be hurting so much; the purse-string, perhaps? Dick said he thought they had dropped the cautery into his belly, when they divided the appendix, and cauterized the stump; nothing like that, so far—though it wouldn't matter now—

Things seem to refocus themselves, rather suddenly. I don't believe I fainted, but I wasn't far from it; just began to, perhaps.

"Now I'm going to sew up the peritoneum. The anatomists say there are no pain nerves in it. How about that?"

"They—ugh—lie!" Let the damn fool laugh! Visceral, perhaps not, but parietal—ugh—it hurts! Unless he's fooling me about where he is?

"Now we'll take the superficial layer of the muscle sheath. It's supposed to have nerves."

It has, too. I feel every prick on both sides of the infiltrated area. If that area were wider—but, pshaw, a fellow can stand this easily. Ugh, that one hurt! "What was that?"

"The muscle-tie."

Good, he's nearly through. Skin next. Yes, every prick hurts; and then he has to fool with the skin edges—hope he gets 'em right; I was always fussy about 'em. Now the dressings—

"Say, would you mind letting me see the thing?" Someone brings around a little bottle; the thing is in it, but the eyes won't focus right, somehow; best slide back, and let the morph take hold now—it's rather like a dream, till we get back into bed, and relax into a doze—.

"AS OTHERS SEE US"

CHESTER ROWELL'S COMMENT *

The Los Angeles *Times* takes Dr. Morris Fishbein, editor of the *Journal of the American Medical Association,* to task for "arrogant intolerance" in claiming a monopoly of "one limited school" of medicine, and for "branding all indiscriminately as quacks, faddists, fakers, and impostors who do not subscribe to his narrow views of what constitutes the practice of healing." "Medical diagnosis under the canons of the regular school is not such an exact science as to call for sneering reference to the substitution of the violet rays of the sun for the old-time allopathic drug doping in the treatment of tuberculosis."

* * *

Since there is not, and never was, any such thing as "old-time allopathic drug doping in the treatment of tuberculosis," and since Doctor Fishbein made no "sneering reference" to the use of sunlight in its treatment, but, on the contrary, uses that treatment himself, as do all other scientific physicians, the illustration is, to say the least, unfortunate.

* * *

But the appeal for "tolerance," by one "school" of another, is an example of a common fallacy. There is no "tolerance" of astrology by astronomers. There is no "tolerance" of fortune-telling by psychologists, nor of perpetual motion inventors by physicists. Geologists do not locate oil or water by dowsing with a forked stick, nor "tolerate" those who do. Entomologists do not "tolerate" those who would exterminate insect pects by interfering with their spontaneous generation. Scientific agriculture does not "tolerate" the theory that potatoes grow wrong unless planted in the dark of the moon. All these "schools" exist, and they are all rejected outright as unscientific superstitions by every scientist in the world.

* * *

On the other hand, good Catholics tolerate the Holy Rollers, and Buddhists tolerate the Mormons. Atheists tolerate the faith of Christians and Christians the unfaith of atheists. Protestants and Christian Scientists tolerate each other's religion, each respecting the right of the other to seek God in his own way. But the law of the land did not tolerate polygamy, when the Mormons said it was religion, and the regents of the University of California do not permit

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* This article appeared in the opening column of the second section of the San Francisco Chronicle of Saturday, January 18, 1930. See second editorial, this issue.

an antivaccinationist student to endanger the health of other students, even though he calls his objection religious.

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So in medicine. If it were a matter of faith, dogma or canons, one "school" should "tolerate" another. If it is a matter of science, then the only distinction is that of scientific and unscientific. And between science and nonscience there is no equality of right, and no basis for tolerance. The fact that millions of devout people in India believe in casting their horoscopes by the stars does not erect them into a "school" of astronomy, nor impose on astronomy any obligation to recognize them. They are neither "regular" nor "irregular" astronomers—they are not astronomers at all. Neither is any unscientific theory or practice of healing any part of the science of medicine. There are only two sorts of medicine, scientific and unscientific. And of the unscientific "schools," science has only this to say—that they are unscientific.

* * *

How, then, shall we distinguish which principles and practices of healing are scientific, and which are not? The simplest test is that which we unhesitatingly apply in every other branch of knowledge. That is the judgment of scientists. If the scientists say that a certain thing is scientific, we accept it as such. If they all say it is unscientific, we say likewise, at least until it has succeeded in convincing them. Every scientific university in the world teaches astronomy, and not one teaches astrology. All of them teach chemistry and not one teaches alchemy. Every university in the world teaches scientific medicine, and not one of them—not a single one in the whole world—teaches or recognizes any of the "schools" or sects for which the *Times* speaks. If the unanimous voice of science means anything, this is its verdict.

* * *

The next test, and the decisive one, is that of method. Scientists may be mistaken, sometimes, in their results and conclusions. Sometimes a thing which seems true in the light of incomplete information becomes only partly true in the light of later discoveries. But science is not mistaken in its method. That method is systematic observation and experiment, and the submission of these observations and experiments to the scientists of the world, for them to repeat, to test and to scrutinize. Whatever pursues that method and is approved by that test is scientific—including, in medicine, light rays for tuberculosis, diet for many ailments, and hydrotherapy for certain mental conditions. Whatever does not proceed by that method, or fails by that test, is unscientific—including all the cults, sects, and schools which Doctor Fishbein rejects and the *Times* defends.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. III, No. 2, February 1905

From some editorial notes:

. . . *The Meeting at Riverside.*—The next annual meeting of the state society will be held on April 18, 19 and 20, at the New Glenwood Hotel, Riverside. . . .

. . . *Some Bad Legislation.*—Two particularly objectionable bills have been introduced, one in the Senate and the other in the Assembly. . . .

. . . Don't lose an hour's time in writing to the Senator and Assemblyman from your district, and get every voter you can to do the same thing; tell them to leave these two laws alone—the vaccination law and the Medical Practice Act. If these two bills are allowed to become laws, the scourge of smallpox and the pestilence of the quack will soon be California's portion. . . .

From an article on "The Tonsils as Portals of Infection" by M. W. Fredrick, M. D., San Francisco:

Although it is scarcely fifteen years since Gabbi called attention to the frequent association of tonsillitis and pneumonia, the importance of the part played by the tonsils as portals of infection for diseases in distant parts of the body is so great, and the idea such a plausible one, that the subject speedily gained recognition, and has been ably expounded in its different phases by a number of good writers and observers. . . .

From an article entitled "Report of Cases Simulating Grave Mastoiditis" by Fred Baker, M.D., San Diego:

Strange or rare conditions involving difficulties of diagnosis in diseases which endanger life or the integrity of important function are always worth reporting. The following case fulfills these conditions, while the succeeding cases, though less interesting and important, illustrate another phase of the same disease: . . .

From an article on "Posture in the Treatment of Disease" by C. M. Cooper, M. B.:

The influence of disease upon attitude and position in obedience to the principles enunciated particularly by Hilton has been studied to some extent; though even in this there is still much that could be added to our knowledge if to the improved armamentarium of our day could be added the discerning bedside acumen of the older clinicians. . . .

From minutes of county medical societies:

. . . *Los Angeles County.*—The resolutions passed by the Council and officers of the state society, in conference, relating to the question of advertising in the *Journal of the American Medical Association*, were then read by the secretary and, after some little discussion, endorsed with but one dissenting vote. . . .

. . . *San Mateo County.*—In response to an invitation sent out by the secretary of the state society a number of physicians of San Mateo County met at the Union Hotel in San Mateo on the evening of December 22, and effected organization of the San Mateo County Medical Society. . . .

From the minutes of the California Academy of Medicine:

Regular meeting held in San Francisco, December 27, 1904, the president, Dr. Dudley Tait, being in the chair. . . .

. . . "An Epidemic of Diphtheria at Stanford University." Dr. R. L. Wilbur reported his personal experience in the recent small epidemic of diphtheria at Stanford University and Palo Alto. The origin of the epidemic could not be definitely traced. Of the forty-three cases which came under his observation, in four the infection involved the larynx, in three the mouth, in one the nose, and in one the conjunctiva. . . .

From a reprint of an editorial:

New Jersey's Approval.—Doctor Jones, editor of the *California State Journal of Medicine*, instead of receiving the support and encouragement (in regard to advertising of secret remedies in medical journals), which his manly and unselfish course deserves, seems to get abuse from some, misrepresentation from others, and the cold shoulder from all. . . .

. . . One would think that no medical man, except Doctor Jones, was ever born with a sense of humor; otherwise, rich and powerful medical societies would not make themselves ridiculous and stultify themselves for gain. . . .

. . . What folly! What hypocrisy! Like the Pharisees of old, they make tithe of mint and cummin and neglect the weightier matters of the law.—*Journal of the Medical Society of New Jersey.*

* This column aims to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

DEPARTMENT OF PUBLIC HEALTH

By W. M. DICKIE, *Director*

Epidemic Meningitis Bears Watching.—Nineteen cases of epidemic meningitis were reported in California last week; in fact, the present trend of meningitis is similar to the trend of the disease during November and December of 1928. The past year has brought more cases and more deaths from epidemic meningitis than any year in the history of California. From January to August, inclusive, 1929, 302 deaths from epidemic meningitis have been recorded in this state. Thirty-two per cent of these deaths, 118, were among Filipinos, Mexicans, Chinese, and Japanese. Of these, 57 were in Filipinos, 39 in Mexicans, 16 in Chinese, and 6 in Japanese. Two hundred eighteen deaths were in men and eighty-four in women. The numbers of deaths by months of occurrence were as follows:

January	43
February	36
March	55
April	47
May	51
June	35
July	19
August	16

It will be noted that the status of meningitis at the present time is similar to the status of the disease at the same time last year. Health officers are urged to be on the watch for cases that may be suspicious of this disease and to report promptly to the State Department of Public Health any such cases that may occur.

Winter Season Brings Influenza and Measles.—From the reports of cases of influenza and pneumonia received during the past four weeks, it is evident that respiratory infections are more prevalent. The increased incidence indicates that we may expect an outbreak of influenza during February and March. In the past, epidemics of influenza and pneumonia occurring during February and March have been less extensive than those in the fall months. Nevertheless, the disease, with all of its debilitating effects and serious sequelae, is always to be regarded with apprehension and persons are urged to heed the advice of avoiding crowds, going to bed upon appearance of first symptoms and taking sufficient rest to allow complete recovery before resuming activities. A physician should be in attendance.

Measles, also, is on the increase. During 1927, 58,963 cases were reported, and since the epidemics appear with definite regularity, this increased incidence of the last few weeks leads us to believe that measles will be one of the leading diseases of children during January, February, and March. Scarlet fever and mumps continue to prevail, though the cases of scarlet fever are reported to be very mild in most instances.

The present distribution of epidemic meningitis is somewhat disturbing.

The trichinosis season is upon us.

Smallpox is decidedly in evidence.

Scarlet Fever Is Prevalent.—A total of 12,816 cases of scarlet fever have been reported during the period January 1, 1929 to November 16, 1929. This is more than twice as many cases as were reported during the entire year of 1928. The relatively low number of deaths indicates that the disease, in general, is not of a severe type. There were fifty-four scarlet fever deaths in 1928, and during the first seven months of 1929 there were seventy-four such deaths. The most alarming feature of scarlet fever lies in the complications that may occur and which may be productive of terrific damage in later years. The ears and kidneys are commonly involved and many cases of deafness and of kidney diseases have their beginnings in scarlet fever which was contracted during childhood. Most cases of scarlet fever occur in children who are under ten years of age, but a considerable number of cases are in those who are between the ages of ten and fifteen years. All persons are not susceptible to the infection. About half of all persons who are exposed to it contract the disease.

It is essential that all cases of scarlet fever be discovered early and placed in strict isolation, giving particular heed to the destruction of all discharges from the nose, throat, and ears. Scarlet fever is spread by the transference of the infection in the discharges from the noses and throats of persons who may be ill with the disease and those who may be carriers of the infection. In order to contract scarlet fever the susceptible individual must be within "striking distance" of the person who transmits the disease. The spray and droplets from the infected person may be ejected for a distance of several feet. At the present time, scarlet fever is the most prevalent of the respiratory infections.

Crippled Child Act Helps Many.—The so-called Crippled Children's Act has now been in effect for two years and during that period a total of one hundred and forty-three certificates, enabling physically handicapped children to receive treatment free of charge, have been issued. Three of these certificates were issued in 1927, sixty-eight in 1928, and seventy-two have been issued so far this year. The one hundred and forty-three children for whom these certificates were issued live in thirty-seven counties of the state. The services of twenty-six surgeons have been utilized in the correction of their physical handicaps and the patients have been placed in twenty-four different hospitals scattered throughout the state. About half of these children are no longer in hospitals, but are still under observation of doctors and nurses. The following table gives full information concerning the results obtained through the operation of the Crippled Children's Act during the two years it has been in operation:

Number of certificates issued		143
Cases dismissed as cured	9	
Cases no longer hospitalized, but still under observation	70	
Cases in convalescent homes	3	
Cases pending	16	
Cases which have not been hospitalized	12	
Cases hospitalized	33	
Number of surgeons		26
Number of hospitals		24
Number of counties		37

Prevention of Blindness in Babies.—During the past two years the State Department of Public Health has distributed 26,406 outfits for the prevention of blindness in babies. These outfits consist of two wax ampoules, each of which contains two drops of a two per cent solution of nitrate of silver. The eyes of newly born babies are peculiarly liable to infection and the nitrate of silver is placed in the eyes of the infant at birth, in order to prevent the development of infections which might result in blindness. The state law requires the State Department of Public Health to distribute this product gratuitously. Many of the outfits are for use in charity institutions and in families where this method of prevention would not otherwise be available. The policy involved in this procedure saves the state vast sums of money that might otherwise be required in the care of blind persons in state institutions. The cost of the nitrate of silver is negligible. The prevention of blindness in babies has well been cited as an instance in which "the protection of the citizen from the assaults of ignorance, indifference, or neglect, when they threaten his well-being and even his economic efficiency, is a duty which the state cannot evade and which he has a right to exact."

CALIFORNIA BOARD OF MEDICAL EXAMINERS

By C. B. PINKHAM, M. D.
Secretary of the Board

News Items, February 1930

The annual report of the Board of Medical Examiners, recently submitted to Governor Young, shows that during the year 1929 590 certificates of all classes were issued, of this number 241 being reciprocity certificates, the largest number of applicants coming from Illinois, while Ohio shared second place with Missouri. Forty-nine California licensed physicians and surgeons have sought registration in other states and 234 licentiates died. Thirty licentiates were called before the board for various derelictions, the judgment of the board being as follows:

Guilty—Revoked	8
Guilty—Probation	7
Guilty—Penalty suspended	2
Dismissed	4
Deferred to February, 1930 meeting	9

Governor Young announced appointments of the following members to the State Board of Medical Examiners: Dr. Harry V. Brown, Glendale, who succeeds H. M. Robertson of Santa Ana; H. A. L. Ryfkogel, succeeding A. W. Morton, both of San Francisco; George L. Dock of Pasadena, who succeeds Wilburn Smith of Los Angeles. Those reappointed were Dr. Percy T. Phillips, Santa Cruz, president; Charles B. Pinkham, San Francisco, secretary and executive officer; W. R. Molony, Los Angeles; and J. L. Maupin, Fresno (San Bernardino *Telegram,* January 10, 1930).

With two convictions already made under California's new diploma mill law, inspectors of the State Board of Medical Examiners today were investigating reports of several fake doctors operating over the state. Albert Carter, Los Angeles investigator for the board, was searching for "Dr." Tsuneyoshi Koba, a Japanese, who posed as a graduate of Johns Hopkins Medical School, in Baltimore. Carter recently seized a diploma from the Baltimore school made out to Doctor Koba, and inquiry at the school revealed that the diploma was fraudulent. Conviction under the new law is a felony (San Francisco *Call-Bulletin,* January 3, 1930).

For the first time in the history of California law, a murder case was decided solely on briefs submitted when Dr. Florence Goodhall, woman chiropractor, was acquitted by Superior Judge Carlos Hardy of the killing, through an alleged illegal operation, of Mrs. Zeruah P. Mahan. The case was submitted to Judge Hardy thirty days ago. Mrs. Goodhall was convicted of second degree murder by a jury in Superior Judge Walton Wood's court last April 23, but Judge Wood granted the woman a new trial on motion of her counsel. . . . The theory of law on which Judge Hardy based his acquittal was that the uncorroborated testimony of an accomplice was insufficient for conviction (Hollywood *News,* December 3, 1929).

Among others who have been called before the board to show cause why their licenses should not be revoked at the meeting to be held in Los Angeles, February 4, are the following: Francis James Bold, M. D., Whittier, alleged illegal operation; F. E. Cramer, M. D., alleged federal narcotic charge; George E. Darrow, M. D., Artesia, illegal operation; Oscar W. de Vaughn, M. D., Oakland, alleged illegal operation; Clarence E. Edwards, M. D., San Francisco, alleged illegal operation; William A. Lang, M. D, Los Angeles, alleged illegal operation.

An indictment charging Dr. G. Carl H. McPheeters, Fresno physician and surgeon, with sending obscene matter through the mail, which was voted by the Federal Grand Jury in November 1926, has been dismissed on the authority of Attorney-General William D. Mitchell (Fresno *Bee,* January 7, 1930).

According to the San Francisco *Examiner* of December 6, 1929, Dr. Shirley W. Wynne, New York Commissioner of Health, has written a letter to the Federal Radio Commission asking whether some means cannot be found to stop fake doctors and quack-healing concerns from advertising over the radio. Judging from the complaints that come to the office of the Board of Medical Examiners, some missionary work along this line can be done in California.

The last gasp of the Berkeley Chiropractic College, 2158 Shattuck Avenue, Berkeley, was heard today, when the Supreme Court, on motion of Attorney-General U. S. Webb and the State Board of Chiropractic Examiners, dismissed a notice of appeal on the ground that it had not been perfected. The school was ordered closed by Superior Judge J. J. Trabucco, November 28, 1928, when it was shown the place was operated as a "diploma mill" and since then its proprietor, Percy Purviance, has battled in nearly every court in the region to continue its operation. His license to practice as a chiropractor was revoked by the board in 1926 . . . (Oakland *Tribune,* January 10, 1930). (Previous entries, December, 1925; February, July, September, October, 1926; February, 1927; March, May, and July, 1928.)

"Do you see yourself as others see you?" asked Mrs. A. E. Burton, 1931 Fairview Street. As a trade phrase the inquiry may have registered, but it had no startling effect on J. W. Davidson, special agent for the Board of Medical Examiners. His reaction was to arrest Mrs. Burton. Charged with practicing beauty culture and surgery without a license, Mrs. Burton was lodged in the city jail to be released on $500 bail . . . (Oakland *Post-Inquirer,* January 7, 1930. On January 11, 1930, sentence of six months' probation was imposed, with the additional penalty that Mrs. Burton refund $80 of the original fee charged the complaining witness.

"Declaring that there are chiropractors in California using their profession as merely a cloak and subterfuge for vice, Dr. S. J. Howell, secretary of the State Board of Chiropractic Examiners, today announced a vigorous housecleaning within the ranks of the profession. Operating in Los Angeles as the first stroke in the campaign, investigators of the Board have acted against thirteen chiropractors. Most prominent of these is Dr. Charles A. Cale, president of the Cale Chiropractic College of Los Angeles. He was charged with violating Section 288-a of the Penal Code, a moral charge, and was released on $2,000 bail . . . "

According to reports, the California license of a physician who died in 1928 was seized by the police who reported its having been found hanging on the wall of a questionable massage and alleged bootleg establishment in the California Building, Los Angeles. The Arizona license of this deceased physician was seized at the same time.

L. P. Tso on December 30 was sentenced in the courts of Los Angeles to pay a fine of $100 or serve ninety days in the city jail following his plea of guilty to a charge of violation of the Medical Practice Act. All of said sentence except $10 fine was suspended on condition that he close his place of business at once and not again violate the Medical Practice Act. The minimum fine under Section 17 of the Medical Practice Act is $100.